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				Stock	10 15

## NEWS SUMMARY

### GENERAL

#### France in Chad peace initiative

France last night launched a diplomatic initiative to secure peace in Chad with the announcement that Foreign Minister Claude Cheysson would have talks in Libya at the end of the week.

Mr Cheysson starts tomorrow on an African mission that will also include the Chad capital of N'Djamena and the Ethiopian capital of Addis Ababa. Libya has been supporting the anti-government rebels.

In the last few days French forces have pushed north by more than 100 km (63 miles) the east-west "peace demarcation line" in Chad. Yesterday they were patrolling the new buffer zone. Page 18

#### Four die in Lebanon

A U.S. marine and three others were reported killed in an anti-Government militia fought with the marines and the Lebanese Army in the southern outskirts of Beirut.

In Damascus, the Syrian foreign Minister had long talks with U.S. special envoy Donald Rumsfeld on the Middle East and Lebanon. The U.S. side reported "some progress." Beirut airport closed. Page 4

#### Heseltine talks

Saudi Arabian Defence and Aviation Minister Prince Sultan bin Abdulaziz and British Defence Secretary Michael Heseltine discussed military co-operation between the countries in Riyadh.

#### Belgian drug haul

Belgian police seized 74.5 kilograms (164 lb) of heroin, with a street value of \$12.7m, in Antwerp, and arrested 10 Chinese.

#### Egypt to rejoin

Egypt has accepted an invitation to rejoin the Islamic Conference Organisation, from which it was suspended in 1979 after signing the peace treaty with Israel. Page 4

#### Chinese satellite

China has launched its 14th experimental space satellite.

#### Bus crash 'kills 80'

A bus crashed into a canal near Rorip in the north Indian state of Punjab. Eighty people were feared killed.

#### 40 Somalis killed

Ethiopian aircraft attacked the northern Somali border town of Borama, killing 40 Somalis, mostly children, and injuring 80, Mogadishu radio said.

#### Railway reopened

Ethiopia reopened its railway to Djibouti after a mine attack by Somali guerrillas in which 29 people were killed.

#### Computer jailings

Six heads of Taiwan computer companies found guilty of copying Apple Computer software were each jailed for eight months in Taipei.

#### Pick your child's sex

Doctors at the Hadassah Hospital, Jerusalem, say they can allow parents to choose the sex of a future child by treating human sperm before it is implanted in the mother.

#### His 26th marriage

Glynn Scotty Wolfe, 75, owner of a small Californian hotel, married for the 26th time: a record for the monogamous world. Christine Canacho, 38, is his oldest bride. He has been divorced 25 times, owes no maintenance, and has fathered 40 children.

### BUSINESS

#### Trafalgar lines up cost-free shipyard

TRAFALGAR HOUSE, the UK building, property and shipping group, is near to achieving a cost-free takeover of the Scott Lithgow Lower Clyde shipyard, which is facing closure by state group British Shipbuilders. Page 18

DOLLAR lost ground in thin trade, falling to DM 2.811 (from DM 2.823). FFR 8.5075 (FFR 8.525), and SfrFr 2.241 (SfrFr 2.2475), but rising to Y24.35 (Y24.25). Its Bank of England trade weighting was down from 131.8 to 131.6. In New York it closed at DM 2.8165, SfrFr 2.246, Y24.72 and FFr 8.6115. Page 35

STERLING rose 45 points to \$1.408 and Y330.5 (Y329), was unchanged at FFr 12.1025 and SfrFr 3.1575, and eased to DM 3.96 (DM 3.9625). Its trade weighting was also unchanged from Friday's 81.9. In New York it closed at \$1.4055. Page 35

GOLD rose \$0.5 in London to \$389.875. In Frankfurt it fell \$1 to \$370, and in Zurich it rose \$0.25 to \$370.25 in New York, the Comex February settlement was \$370.2 (\$369.8). Page 34

WALL STREET: Dow Jones industrial average closed 8.48 down at 1,221.52. Report, Page 25; Full share prices, Pages 26-28

LONDON: FT Industrial Ordinary Index fell 7.3 to 832.2. Government securities showed rises averaging about 0.4 per cent. Report, Page 25; FT Share Information Service, Pages 30, 31

TOKYO: Nikkei Dow index rose 29.26 to a high of 10,235.73, and the Stock Exchange index gained 1.64 at 777.96. Report, Page 25; Leading shares prices, Page 28

HONG KONG: Hang Seng index rose 42.26 to reach 1,097.63, its highest for six months. Report, Page 25; Leading prices, other exchanges, Page 28

FRANCE has almost halved its border and port posts for imports of live cattle and pigs, and pigmeat from EEC countries. Page 34

AUSTRALIA'S Labor Government is determined to bring in a petroleum industry resources rent tax for 1984-85. Page 4

WEST GERMAN Carcel Office has asked oil groups Veba, Mobil and Wintershall to make changes in their jointly owned distribution subsidiary Aral to ensure fairer competition. Page 2

JAPAN'S vehicle exports were 1.4 per cent up in 1983 at 5,669,510 units. Page 6

PORTUGAL'S underground economy was estimated officially at 22 per cent of declared production.

HANSON TRUST, the UK holding group with big U.S. interests, has built a 4.58 per cent stake in British engineering group Powell Duffryn, pushing up its share price to a peak. Lex, Page 18

FINSIDER, the Italian state steel group, is likely soon to reopen the Bagnoli complex near Naples, after EEC quota concessions. Page 3

KRAFTWERK UNION of West Germany has specialists working on the Bushehr nuclear power plant project in Iran, abandoned in 1979, to establish the cost of completion. Page 6

AIR INDIA and Indian Airlines plan to spend \$2bn on new aircraft over the next 10 years. Page 6

ELF-AQUITAINE, the French state oil and chemicals group, announced 1983 profits of about FFr 3.5bn (\$406m), about the same as in 1982, and making it by far the most profitable company in France. Page 19

SAGA PETROLEUM, the Norwegian independent, expects to make a 1983 profit of about Nkr 70m (\$7.5m). Page 29

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## Armco plans sale of its insurance division to Allianz

BY PAUL TAYLOR IN NEW YORK

Armco, the diversified U.S. steel and energy company, said yesterday it planned to sell its troubled domestic and international insurance business to Allianz Versicherung, the West German insurance group.

Allianz was recently outbid by Britain's BAT Industries in a takeover battle for Eagle Star Holdings, one of the UK's largest insurance groups.

Armco, which has in recent months sold other substantial assets in an effort to improve its cash position, said it had approved a letter of intent to sell the insurance business to the West German company for "between 1.5 and 2 times book value." It declined to set a figure on the value of the deal.

Allianz said last night no final decision had been taken and that it might take two to three months to evaluate Armco's insurance assets. The German company last month reported a profit of some €185m (\$231m) on the sale of its 30 per cent stake in Eagle Star.

Such a sale would mark a major reversal in strategy for Armco, the sixth largest U.S. steelmaker, and would effectively signal the end of its diversification into the financial services industry. It first started to

do so in the 1970s when it entered the international reinsurance business, but intensified in 1981 when Armco paid \$320m for NN Corporation, which broadened its insurance interests into multi-line personal and commercial property and casualty insurance.

The insurance units, which include 31 separate companies around the world, are part of Armco's financial services division, which includes a leasing and industrial credit business. At the end of 1983 the division had assets of \$2,335bn and Armco's equity investment in the division totalled \$275.2m.

In 1982 the division produced revenues of \$660.6m but reported a net loss of \$4.8m. Since then the results of the insurance business in particular have worsened, and last year Armco was forced to add \$180m to its reserves for insurance losses.

Last week Armco reported a fourth-quarter 1983 loss of \$46.8m,

Continued on Page 18

## Brazil may need \$4bn in new credit next year

BY JONATHAN CARR IN DAVOS

BRAZIL will probably need about \$4bn in fresh credit next year from the commercial banks, and negotiations on the loan are likely to start in the next few months.

That was made clear by Brazilian financial sources yesterday, three days after the banks signed an agreement providing Brazil with \$8.5bn in new credit this year.

The lower 1985 figure was based on the assumption that Brazil would continue to make steady progress in improving its trade balance and restoring domestic economic and financial stability.

Speaking to businessmen at the annual symposium of the European Management Forum in Davos, the Brazilian Finance Minister, Sr Ernane Galveas, estimated that his country's trade surplus would rise to \$9bn this year after \$6.5bn in 1983.

He also believed that Brazil's public-sector budget would be in balance by the end of the year, after showing a deficit equal to 2.7 per cent of gross national product in real terms last year.

serious threats to solving the debt problem of the developing states - protectionism, a possible resurgence of high interest rates and potential oil price increases.

Mexico had received commitments totalling more than \$2bn for its \$3.8bn loan from commercial bank creditors when the initial deadline for replies expired on Friday night, writes Peter Montagnon.

Although still short of the total, the figure shows that the pace of replies picked up substantially at the end of last week.

Argentine officials are also to meet leading bank creditors again in New York this week. One point for discussion will be Argentina's entitlement to receive a further \$500m tranche of the \$1.5bn medium-term loan negotiated with the banks by the former military government.

## U.S. hints at shift on position in nuclear arms control talks

BY REGINALD DALE, U.S. EDITOR, IN WASHINGTON

THE REAGAN Administration yesterday hinted at a shift in its position on nuclear arms control negotiations with the Soviet Union, saying that a "breakthrough based on trade-offs" could be achieved in the Geneva strategic arms reduction talks (Start) if Moscow returned to the table.

Mr Edward Rowny, the chief U.S. strategic arms negotiator, indicated after a meeting with President Ronald Reagan that the U.S. would consider any "reasonable" Soviet proposal to merge the Start talks with the parallel Geneva negotiations on intermediate range nuclear missiles in Europe (INF) - an idea that Washington has hitherto opposed.

Asked if he was signalling a new willingness to listen and talk about a merger, Mr Rowny replied, "That's a fair statement." He stressed, however, that the U.S. would not itself make such a proposal.

Moscow broke off the INF talks after the Nato deployment of Amer-

ican cruise and Pershing 2 intermediate range missiles began in November, and has declined to set a date for the resumption of the Start talks.

U.S. officials, including Mr Rowny, have previously opposed Soviet suggestions that the two sets of talks be merged on the grounds that unsolved problems would only be further complicated.

Privately, administration officials have also expressed concern that West European governments, which have been closely consulted on the DNF negotiations, would acquire increased influence over the strategic negotiations, the conduct of which, in the American view, should be restricted more narrowly.

Mr Rowny said Mr Reagan agreed that "the Start negotiations have made more progress than is generally realised and we are now in a position when we return to the table to make a breakthrough based on trade-offs of U.S. advantages to balance Soviet advantages."

He then referred to Mr Reagan's proposal of last September that U.S. advantages in strategic bombers and cruise missiles could be traded against Soviet advantages in ballistic missiles.

Mr Rowny cited a number of Soviet moves as evidence of progress in the Start talks during the past 18 months, in which Mr Reagan's opponents have accused him of dragging his feet. Moscow had reduced the ceiling it would accept on strategic weapons, made some movement to address U.S. concerns on verification and dropped some of its own proposals that particularly troubled the U.S., Mr Rowny said.

He added, however, that Moscow had reacted coolly to last October's U.S. offer of a "build down," under which each side would scrap a specific number of nuclear weapons each time it deployed a new one.

He rejected as "totally groundless" Sunday's Soviet charges that the U.S. had violated existing arms agreements.

## Signs of revival in Hong Kong property market

By Robert Cottrell in Hong Kong

HONG KONG'S depressed property market is showing signs of recovery, according to preliminary government figures published yesterday. During 1983, demand for residential, commercial and factory space rose, while supply fell. Demand for office space hit a record high but was none the less outstripped by new supply coming on to the market.

Mr Raymond Fry, Hong Kong's Commissioner of Rating and Valuation, said yesterday that the trends constituted "clear signs of a revival in the property market," and indicated that end-users had been entering the market, attracted by low prices, to "fulfil their accommodation needs."

Property is a central feature of the Hong Kong economy. At the height of the recent "boom" in 1981, property assets were estimated by local stockbrokers to account for some 70 per cent of the capitalisation of the local stock market. The property "crash" of 1982, caused by over-supply coupled with political worries about Hong Kong's future, sent the stock market into a prolonged depression and bankrupted large, publicly quoted companies, including the Carrian and EDA groups.

The newly published government figures confirm local perceptions of a return of interest in the local property market. Earlier this month, Everbright Industrial, a China-backed company, paid HK\$1bn (\$128m) for eight blocks of flats on Hong Kong island, the largest local property deal for more than a year.

A government auction next month of a site in Hong Kong's central business district is expected to attract bids above its reserve price - a situation few analysts would have confidently predicted six months ago.

The bottoming-out of the property market is a factor in the rally, which has been gathering speed on the Hong Kong stock market since the Christmas holidays season.

According to the Government, Hong Kong's domestic, commercial (mainly shops) and factory sectors saw a falling vacancy rate in 1983. Vacancy rate expresses empty property as a percentage of the total stock of property of that type.

For private domestic units, the vacancy rate fell from 6 per cent at the end of 1982 to 4.7 per cent one year later. Demand was strongest for small flats.

Lex, Page 18; Hong Kong market, Page 25

## Japan, U.S. sign pact on telecom sales

BY STEWART FLEMING IN WASHINGTON

THE U.S. and Japan have signed a new three-year agreement aimed at giving U.S. telecommunications companies a bigger share of the Japanese market and at opening the door for them to participate in joint research and development projects with Nippon Telegraph and Telephone (NTT), the state-owned telephone company.

The agreement was signed during a visit to Washington by Mr Shintaro Abe, the Japanese Foreign Minister. While it will be welcome to U.S. telecommunications manufacturers, it reflects the limited progress which the U.S. and Japan are making in dealing with the trade conflicts they face.

Last Friday, the U.S. disclosed that it suffered a \$89.5bn merchandise trade deficit last year of which \$21bn was a bilateral deficit with Japan. Some economists argue that, although the U.S. economy is recovering and employment rising, the scale of the deficit and its impact on specific sectors of the U.S. economy will mean that protectionist pressures will continue to intensify this year.

## Nissan unions agree on British car plant

BY JUREK MARTIN IN TOKYO

NISSAN seems set to go ahead with its proposed car plant in the UK. An announcement on the Japanese group's long-awaited decision is thought to be imminent, possibly tomorrow.

But the plant will be on a much more modest scale than envisaged three years ago.

Nissan's management met the company trade unions yesterday and apparently reached broad agreement on the British plant. Opposition from the unions in Japan formed a big stumbling block to the decision to proceed with the plant.

It is understood that Mr Katsuji Kawamata, Nissan's chairman and previously one of the senior executives opposed to the project, will fly to London to sign an agreement with the British Government to coincide with a formal announcement in Japan.

Mr Takashi Ishihara, Nissan's president, said yesterday after attending the Japanese unions' 30th anniversary celebrations: "We expect to sign an agreement with the British Government next month. "We have now cleared the stage where heated discussions with the unions were needed."

### EEC SEEKS BREAK ON DUTIES

The EEC has proposed that Japan "suspend" import duties on manufactured goods for an indefinite period to reduce its growing trade surplus with the Community. Page 18

The agreement between Japan and the U.S. on NTT procurement policies replaces one which expired last month. In the third year of the previous agreement U.S. telecommunications exports to Japan rose to \$140m.

An important change in the new agreement is that U.S. companies will now be able to enter into joint research and development projects with NTT, something they have wanted both in order to supply

Continued on Page 18

Nissan's proposals, according to unofficial leaks from the company, are that production should start in the second half of next year at the rate of 2,000 cars a month. The model would be based on Nissan's medium-sized 1600-1800cc Stanza.

For the first two years at least, most major components, including engines and transmissions, would be shipped from Japan.

From the third year, Nissan hopes to move from assembly towards a fully integrated production facility relying increasingly on local content.

When fully operational, the plant would produce between 100,000 and 200,000 cars a year. Initial employment is likely to be about 1,000, compared with the 5,000 Nissan talked of three years ago.

Japan's vehicle exports up, Page 6

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EUROPEAN NEWS

Woerner fate uncertain after Kohl meetings

BY RUPERT CORNWELL IN BONN

THE FATE of Herr Manfred Woerner, the West German Defence Minister, was still obscure last night...

dismissed General Guenter Kiessling from the beleaguered Herr Woerner. But no word was available of the substance of the meeting...

government spokesman, was to examine the affair "accurately and thoroughly" before making up his mind...

let it be known that he would be ready to take over as Defence Minister, should Herr Woerner be forced out.

emerging from the Strauss camp. The Foreign Minister moreover declared that the case of Count Otto Lamsdorff...

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Norway to offer oil concessions abroad

BY FAY GJESTER IN OSLO

FOREIGN oil companies have been offered substantial stakes in 14 petroleum exploration concessions which the Norwegian Government plans to allocate soon...

- join the trio of "approved" Norwegian oil companies allowed to take part in activities on Norway's shelf. DNO, which to date has been forced to operate outside Norway...

Inflation falls in Italy

BY James Buxton in Rome

THE ITALIAN inflation rate is continuing to fall, after dropping below 13 per cent last month for the first time since several years...

Spain's entry hopes lifted by French minister's visit

BY DAVID WHITE IN MADRID

A TENTATIVE revival of optimism in Spain about relations with France and the prospects for unblocking negotiations on enlargement of the EEC marked the start of talks here yesterday with M. Roland Dumas...

negotiations before the end of this year is regarded as essential if Spain is to meet its January 1986 target for joining the Community. However, Sr Moran said at the weekend that Spain would not set a deadline for completion...

Gromyko looks to Romania

By Anthony Robinson in London

HAVING re-established lines of communication with the West through a series of bilateral meetings with Nato foreign ministers at the Stockholm disarmament conference...

Romanian demands for more cheap Soviet oil and better access to Soviet and other Comecon markets are likely to loom large on the Romanian shopping list. But Mr Gromyko, who flew to Bucharest yesterday, is expected to try to persuade President Nicolae Ceausescu to fall in behind the rest of the Warsaw Pact countries and give full support to Moscow's retaliatory moves against the deployment of new U.S. missiles in Western Europe...

Soviet military slows down

BRUSSELS — The rate of growth of Soviet military spending has slowed markedly over the past seven years after soaring in the early 1970s...

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Table with columns for Bond Numbers and corresponding values for redemption. Includes sub-sections for 'BOND NUMBERS' and 'CITY OF OSLO (NORWAY) 9% Sinking Fund External Loan Bonds due March 1, 1988'.

On March 1, 1984 there will be made due and payable upon redemption the said redemption price, together with interest accrued to the date fixed for redemption. Payment of the redemption price of the Bonds to be redeemed will be made in such coin or currency of the United States of America as at the time of payment is legal tender for the payment therein of public and private debts...

For the CITY OF OSLO (NORWAY) CITIBANK, N.A. as Fiscal Agent.

January 30, 1984

Vertical text on the right edge of the page, including 'Lk in need of' and 'consider'.

EUROPEAN NEWS

UK holds last-minute steel talks on eve of EEC deadline

By PAUL CHESSRIGHT IN BRUSSELS

THE European Community's effort to restructure its ailing steel industry reaches another turning point today as the Ten run into a deadline for the final submission to the Commission of their industrial and financial plans for national steel industries. Without Commission approval of these plans, governments cannot provide new subsidies for their industries. But subsidy programmes agreed with the Commission before today will continue.

The British Government yesterday was involved in last-minute talks with the Commission on further subsidies, independent of a new corporate plan for the British Steel Corporation (BSC).

Today's deadline springs out of agreements reached in June 1981 when the Ten agreed first to control the steel market and second to a code for the grant of subsidies for the steel companies.

This Code of Aids, as it is called in Brussels jargon, spells out the conditions under which subsidies could be granted and laid down a timetable for their elimination by the end of 1985. In 1986, the European steel-makers should be operating without subsidies, competing in a free market. The market controls come off at the end of 1985, too.

The Code links the provision of subsidies to the elimination of capacity and the achievement of financial viability by the end of 1985.

In June 1981 it was decided that by the end of September 1982, the Ten would have to submit their restructuring plans to the Commission. By the end of June 1983, the Commission would have to give a ruling on these plans — that is, it would have to decide what level of subsidy would be appropriate in order to reach the end-1985 target.

The plans were not generally produced, except in sketchy form, however. Then, in September 1982, the Ten decided that they would have to cut more capacity anyway. This forced the Commission to two things: first, at its June 1983 deadline it could give only conditional approval to what national plans it had and, second, it spelled out the extra capacity cuts which each nation would need to make.

Today, this conditional phase ends. In line with the deadline the Commission imposed last June when it could not do fully what in June 1981 it had been told to do.

Until now the Commission has been allowing governments to provide what might be loosely called interim subsidies. That now stops. "Ministrations of aid to allow companies to survive is finished," said Mr Frans Andriessen, the competition commissioner, last week.

The only fresh authorisations of subsidy will have to be linked to a final restructuring plan. To win the authorisations a government will have to prove to the Commission:

- that a company will be viable by the end of 1985;
- that a company is making enough capacity cuts to secure that viability, in line with the cutback decision of June 1983.

But where there is no plan, there can clearly be no Commission decision, and that is the case for Britain, France and Italy.

In these cases, subsidies being paid will have to have been agreed by midnight tonight. Hence, the British flurry of talks with the Commission. The BSC plan will not be in Whitehall until April; thus it will certainly not be in Commission hands until the summer.

So, breach of the deadline does not mean that no further subsidies can be paid, but that no fresh subsidies will be authorised.

Bonn warns would-be refugees

By Our Berlin Correspondent

BOSS has warned East Germans attempting to leave the country for the West not to seek refuge inside Western embassies in East Berlin. Two groups of East Germans recently took refuge in the U.S. embassy and the West German permanent mission in East Berlin and were subsequently allowed to go to the West.

The warning, by Herr Philipp Jenninger, Chancellor Helmut Kohl's aide in charge of relations with East Germany, was broadcast repeatedly to East Germany yesterday in West Berlin radio news bulletins.

He told the Frankfurter Allgemeine newspaper yesterday that East Germans might quickly find themselves in a "blind alley" if they continue seeking refuge in Western embassies. Understandable as such actions were, "we must warn against regarding them as a pat solution and against believing one can force one's way out this way."

Herr Jenninger said that East Germans should not "mistakenly assume" that Western embassies or Bonn's permanent mission could grant them political asylum. "Whether we like it or not," he said, the East German authorities decide on exit permits in each case.

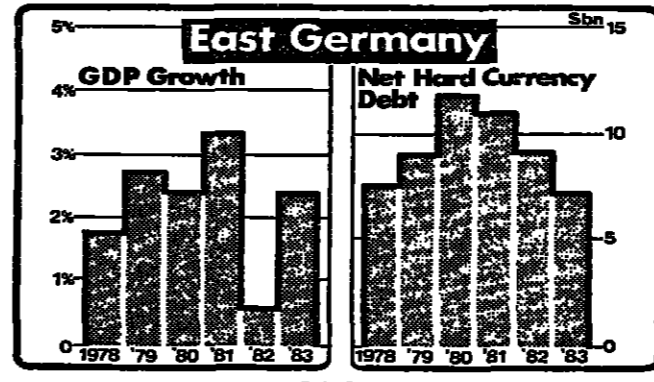
Leslie Colitt in Berlin reports on an important change in the East German economy  
How a wage tax is really a price subsidy

EAST GERMAN industrial managers will find it difficult to meet the Communist Party's demand that they show a profit this year, unless they quickly start shedding manpower. For the Politburo ruling that all state industrial companies must pay a 70 per cent wage tax comes into force this month. Until now, a wage tax did not exist.

The measure, the most important economic step East Germany has taken in 20 years, was published in the legal gazette last year as a decree entitled "Contribution to the Social Fund." It is designed to end the low cost of labour: average monthly industrial wages in East Germany are 1,075 marks compared with DM 2,719 in the West. East German factory managers have therefore tended to hoard workers to help cope with surges in production.

The new wage tax will not add a penny to pay packets, but will provide a large source of revenue which the Government can use to subsidise low consumer prices for basic goods and services. Subsidies will rise this year by a sharp 11.5bn marks to 33.1bn marks out of a budget of 23bn marks (£5.8bn).

The East German Press has said little about the wage tax. The official view is that it is not a reform—the word is anathema—but a routine method of improvement. One reason for the reluctance to discuss it publicly is that it is designed to redistribute manpower on a large scale. If successful, it will undoubtedly cause many East Germans with high qualifications to end up in jobs they feel are below their standard.



Debt figure excludes West German bank loans

Herr Walter Ulbricht and his chief economic planner, Herr Gunter Mittag, went several steps beyond the cautious Soviet reforms based on Mr Liberman's teachings, and this proved to be the downfall of NospI which was silently buried at the close of the 1960s.

Herr Mittag, who is still the Politburo secretary responsible for the economy, has convinced Herr Erich Honecker, the present East German leader, that many elements of NospI were correct and that Mr Yuri Andropov, the new Soviet leader, is heading in the same direction. This time, however, East Germany is being careful not to outpace the Soviet Union.

The prices which industry pays for its raw materials are again being raised in East Germany this year to bring them further into line with international levels. Starting this month, East German agriculture has to pay the same prices as industry for energy and other purchases, while collective farms and producers with garden plots will be paid at least 15 per cent more for their crops to stimulate higher yields.

Consumers, however, do not face higher prices for basic foods, services, transport (which from next year will also pay the wage tax) or rent, which all remain at the level of the late 1970s. This explains the sharp jump in subsidies this year, to maintain low prices for essentials.

After telling the people for years that stable prices for essential goods and services represent one of its most important achievements, the party would find it difficult to reduce the enormous consumer price subsidy. This is said to cover 80 per cent of all consumer products. East Germans question this figure, complaining of constantly rising prices for all but basic goods. There is no desire to move in the direction of Hungary's socialist market economy however, where most prices have been freed from controls.

All the measures introduced in East Germany to make the economy more efficient are centrally issued directives, including regulations to save energy and raw materials, and even a decree describing in detail how metallurgical products are to be distributed.

The more decrees issued, the more controls are needed to see that they are followed. Thus, the party has introduced a decree obliging general directors of the Kombinate—the enormous industrial trusts—to render accounts to their superior Ministry to make sure they comply with directives on saving raw materials and energy.

Until now, the highly centralised command economy has worked better in East Germany than in other Comecon countries, especially the Soviet Union. But now it is being called on to propel East Germany into the micro-electronics age and to close the 30 per cent gap in labour productivity compared with West Germany.

The country has set itself a target of 4.4 per cent growth this year, the highest among the Comecon countries. It is trying to increase exports and curb imports so that it can repay an estimated \$4bn this year on its hard currency debt of which, \$8bn is owed to foreign banks, and \$1.5bn to West German banks. It must also repay its cumulative trade debt to the Soviet Union, which has soared in recent years because of higher priced Soviet energy.

The introduction of the wage tax may go some way toward improving the efficiency of East Germany's industry. However, it is the lack of competition in the large industrial Kombinate and the absence of a profit motive which could undermine its hopes of restructuring the economy in the longer term.

Finsider likely to reopen Bagnoli complex soon

By JAMES SUXTON IN ROME

FINSIDER, the Italian state steel company, expects to reopen soon the Bagnoli complex near Naples as a result of the concessions on quotas which the Government obtained in Brussels last week. Ministers said at the weekend that Bagnoli's output this year would be low. Finsider declared yesterday that it was still evaluating how and when to reopen the plant.

There is a brand new plant costing £400m (£374m) for making flat products at Bagnoli. Most of the complex has been closed for more than a year and Finsider has said it would only start up the new plant if Italy won higher quotas at last week's EEC Council of Ministers.

Although Italy did not formally gain any extra quota it did get an assurance that it would be able to make use of flexibility in the quota system by taking advantage of other producers' unused quotas—to produce a few hundred thousand tonnes of steel at Bagnoli this year. Italy is also to go to the European Council in Brussels to prove its right to an extra 350,000 tonnes of quota.

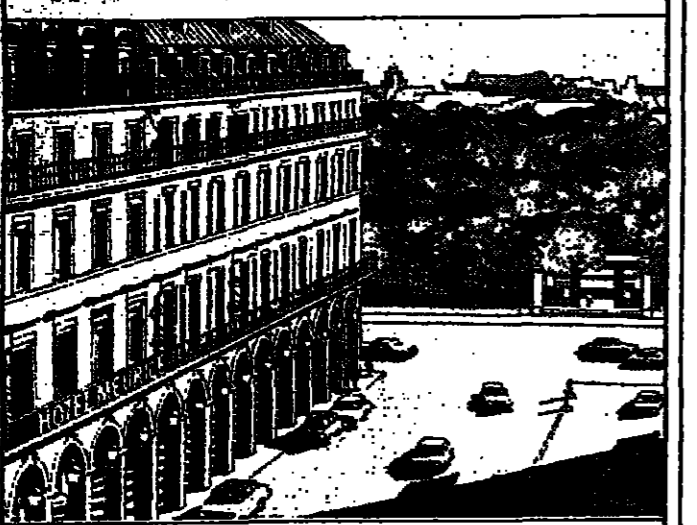
An original Italian request for 1.2m additional tonnes this year was not advanced at the meeting.

The Government has been under heavy pressure from unions and politicians to reopen Bagnoli, even though it is highly questionable whether it will be economic despite "flexibility" on quotas. However, Finsider pointed out yesterday that, as the new plant would be "running in," a high output could not be expected this year.

By today, the Government is due to present a detailed plan to the European Commission on how it intends to cut 5.8m tonnes of steel capacity by the end of 1985, in response to the Commission's request last June for a reduction of 4.8m tonnes in the public sector and 1m tonnes in the private sector.

Finsider's plan for cutting 3.8m tonnes is already with the Commission, although it has not been approved formally by the Italian Government. Plans for cutting 2m tonnes in the private sector are still vague and Brussels has not yet formally accepted Italy's shift of 1m tonnes of cuts from the public to the private sector.

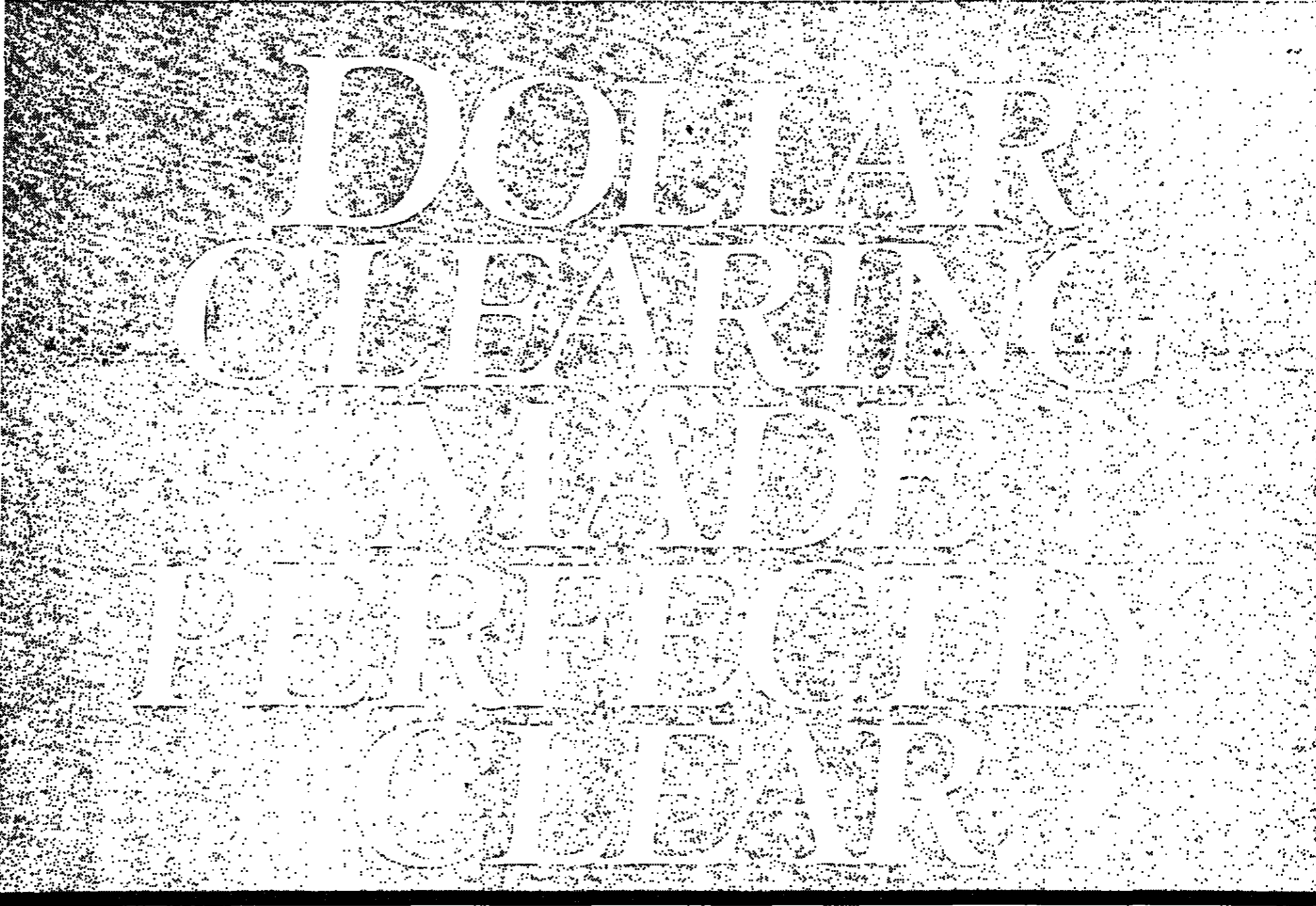
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**LOOKING FORWARD WORLDWIDE**

**SECURITY PACIFIC BANK**

AMERICAN NEWS

Reagan can win by landslide, says campaign chief

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

PRESIDENT Ronald Reagan would win "in far more of a rout" than in 1980 if the U.S. Presidential elections were held now...

Money-supply watchers suspect that changes in reserve requirements may have little effect on the Fed. It's Thursday, not Friday, but the rest is uncertain

AN INNOVATION in the techniques the Federal Reserve Board uses to define U.S. monetary policy...

which is now being dismantled. Individual banks are required to keep interest-free reserves with the Fed on the grounds that these reserves constrain their freedom to increase loans...

after the end of the period. A modified lagged system remains in effect for non-transactions accounts and Eurodollars.

and the general state of the economy. So CRR is coming on stream at a time when the M1 measure, against which the contemporaneous reserves are deposited, is not playing a priority role in Fed thinking.

There is a lively debate going on within the Open Market Committee about whether the time has come to put M1 back on its pedestal.

to ensure that it does not result in unwanted shortages of reserves, which might create the impression that it is tightening its monetary policy.

But instead of ushering in a new era of Fed policy, which monetarist economists had hoped for, the change is now thought to be unlikely to have any far-reaching impact on monetary policy for the time being.

In the U.S., the basic requirement for transactions accounts is that banks must put aside reserves at the Fed equivalent to 12 per cent of their deposit liabilities.

The Contemporaneous Reserve Requirements system is unlikely to usher in a new era of policy, writes Stewart Fleming in Washington. But it will cause the money supply figures to be released earlier in the week.

more rapidly to changing demands for reserves. Economists on Wall Street, however, are suggesting that major changes are not to be expected for the time being.

It creates a new range of uncertainties for both the banks and the Fed about the likely demand for reserves and for the banks, the cost of these reserves.

Beyond such practical changes the impact of the switch to CRR is uncertain. Salomon Brothers' suggests for example that partly because of the longer reserve maintenance period, the change will make Fed open market interventions into the money markets less frequent and less easy to interpret.

Productivity growth in U.S. slows sharply

BY STEWART FLEMING IN WASHINGTON AND TERRY DODSWORTH IN NEW YORK

THE GROWTH in productivity in the U.S. which has been an important factor behind last year's modest inflation rate of just under 3 per cent, slowed sharply in the fourth quarter...

U.S. to sell helicopter spares to Guatemala

BY OUR U.S. EDITOR IN WASHINGTON

THE REAGAN Administration has taken a controversial decision to sell \$2m (1.2m) worth of helicopter spare parts to Guatemala—in the first sale of military equipment to the country since 1977—U.S. officials said yesterday.

IMF interim committee to meet in April

By Philip Stephens

INDUSTRIAL nations have set April 12 as a provisional date for a meeting of the International Monetary Fund's policy-making Interim Committee, apparently settling differences over whether it should convene this spring.

Two fight for Ecuador Presidency

BY SARITA KENDALL IN QUITO

THE TWO leading candidates in the Ecuadorian Presidential election, Sr Rodrigo Borja and Sr Leon Febres Cordero will go forward to a second round runoff as predicted by opinion polls, as neither won an absolute majority in Sunday's voting.

though both will be well represented. The Government's Christian Democrat Party made a poor showing mainly because of the tough economic measures President Osvaldo Hurtado has had to adopt.

The second round is set for May 6, allowing the two candidates another three months of campaigning.

Former Chilean minister arrested

BY MARY HELEN SPOONER

THE former Chilean Finance Minister, Sr Rolf Luders, has been arrested on Government charges of violating banking laws while serving as vice-president of the country's largest financial conglomerate, the BHC group.

banks to refinance \$1.5bn (2.5bn) of Chile's \$18bn foreign debt and following the decision of Gen Augusto Pinochet's regime to set up administrative control of seven troubled banks and finance companies.

OVERSEAS NEWS

Council of Europe assembly halted

STRASBOURG. — A protest over the presence of Turkish delegates at the Council of Europe assembly yesterday forced a suspension of its five-day winter session immediately after it opened.

1984 has heralded a spate of unexpected strikes in South Africa. Black workers raise their fists

BY BERNARD SIMON IN JOHANNESBURG

NINETEEN EIGHTY-FOUR was expected to be a calm year on the labour front in South Africa. With the economy in deep recession, unemployment mounting and managers in no mood for concessions, it was widely assumed that the fast-growing band of black trade unions would not risk a major confrontation.

be extremely lively from the industrial relations point of view. He adds: "It may get worse when the economy really picks up—in other words, in 1985." With hindsight, the present spate of stoppages is not so surprising. Although official figures point to a decline in strike action last year (from 394 in 1982 to 220 in the first 11 months of 1983), industrial relations men suspect that many have not been reported.

Ivory Coast in line for \$90m loan from IMF

By Peter Blackburn in Abidjan

THE International Monetary Fund (IMF) is expected to approve a one-year stand-by credit worth some \$90m for the Ivory Coast. Approval is likely in March and follows agreement in principle on a new programme, reached in Abidjan last week, according to finance officials.

Egyptians accept invitation to rejoin Islamic Conference

BY CHARLES RICHARDS IN CAIRO

EGYPT has accepted an invitation to rejoin the Islamic Conference Organisation (ICO), from which it was suspended in May 1979 for signing a peace treaty with Israel.

INVESTORS CHRONICLE. Post to: Marketing Department, Investors Chronicle, FREEPOST, London EC4B 4QJ.

Australia plans petroleum resources rent tax

BY MICHAEL THOMPSON-NOEL IN SYDNEY

THE Australian Labor Government has announced that it is embarking on its first significant battle of wits with a major industry. This arises from its determination to introduce a resources rent tax (RRT) in the petroleum industry in time for the 1984-85 financial year.

is left after deduction of all expenses, plus an amount equivalent to the minimum return necessary to encourage investment in new projects. Senator Peter Walsh, the Minister for Resources and Energy, says that at present, federal and state governments place heavy demands on the resources sector through a hodge-podge of royalties, charges, and other imposts, many of which are falling on companies which are only marginal producers, and hearing no relation to the profitability of specific projects.

The key features of the rent tax are these: It will replace existing taxes and royalties on all petroleum resources (crude oil, condensate, LPG, and natural gas) and will not be an additional tax; It will be a project tax, not a company tax; It will not be applied until a project's cash flow is positive (that is, until aggregate net earnings are in excess of total investment); It will be levied before company tax, and form a deduction from the company tax base.

Beirut airport closed as marines come under fire

BY PATRICK COCKBURN IN BEIRUT

BEIRUT airport was closed for about two hours yesterday when U.S. marines came under rocket and mortar fire. The marines replied with tank fire. Four civilians and three marines were wounded.

Handwritten Arabic text at the bottom of the page.

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And, of course, explain in more detail just how increasing your flow of export orders needn't play havoc with your cash flow.

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**WORLD TRADE NEWS**

**Champagne exports rise 13%**

By David Marsh in Paris  
"PEOPLE ARE drinking because they want to forget about the economy," says with a smile a leading executive at Moët-Hennessy, France's leading champagne house.

Whatever the reason, French sales of champagne braved the domestic recession last year to rise by 7 per cent — while bottles of bubbly sold abroad popped up by 13 per cent, thanks above all to sharply higher demand in Britain, the U.S. and Germany.

The corking performance — which followed four years of progressive sales declines — is ascribed by champagne specialists to the good harvests of 1982 and 1983, stable prices and the spurt of demand on export markets. Overall bottles sold last year, at around 159m (up from 146m in 1982) however, were still a long way short of the record total of 186m in 1978.

Domestic sales — which account for about 70 per cent of international consumption, the same as five years ago — totalled 109.8m bottles, against exports of 49.6m.

Last year's French sales succeeded in just creeping above the 109.4m sold in 1981, the year President Mitterrand came to power.

Demand from thirsty drinkers last year was led by Britain, where consumption rose 30 per cent to just over 10m bottles. In the U.S., sales rose 37 per cent to 9.7m bottles, while German trade — perhaps linked to Chancellor Kohl's election victory — increased by a whopping 46 per cent to 5.3m.

**Sweden backs credit for Kenya plant**

STOCKHOLM — Sweden's Government announced last week it had approved a special export credit worth Skr 300m (€26m) for Skanska Cementgjuteriet (SCG), a Swedish construction company, to build a power plant in Kenya.

SCG, in co-operation with the Foundation Company of Canada, in which it has a 39 per cent stake, has won four contracts involving the construction of the power station and the building of an adjoining permanent residential area.

The credit facility is the largest the Government has approved so far for a project in a developing country. It is expected to lead to possible Swedish exports of goods and services totalling Skr 205m. AP-DJ

**Work to be resumed on N-plant**

By Leslie Colitt in Berlin  
FEASIBILITY WORK is to resume on the Bushehr nuclear power plant following an agreement between Iran and the West German company, Kraftwerk Union (KWU).

The project came to a halt after the 1979 revolution, when foreign experts left the country. Work on the two 1,200 MW reactors is between 50 and 80 per cent complete.

The first group of KWU specialists has arrived at the site of the power station.

KWU was commissioned by the Iranian Government to determine if it is prepared to complete the nuclear power project and at what cost. KWU says it will take up to nine months to finish its feasibility study.

In addition to the power station an adjoining city for 10,000 inhabitants was built as well as a harbour. The Iranians said the entire project was worth \$3.2bn of which \$2.28bn was paid to KWU. The company said only that it was the largest project it had ever built abroad.

**Japan's vehicle exports up 1.4% last year**

TOKYO — Japan exported 5,669,510 passenger cars, trucks and buses in 1983, up 1.4 per cent from a year earlier, while importing only 35,286 cars, industry officials said yesterday.

The modest export increase followed a 7.6 per cent decline in 1982 from a record annual high of 6,048,447 vehicles in 1981, an official of the Japan Automobile Manufacturers Association said. The Association attributed the 1983 rise to increased demand for new cars in the U.S. and Western Europe following economic recovery.

The exports consisted of 3,806,396 passenger cars, up 1 per cent from 1982, 1,822,429 trucks, up 2.8 per cent, and 40,885 buses, down 13.3 per cent, the official said. The U.S. was the biggest importer, with 2,234,375 vehicles, or 37.7 per cent of AP

Nancy Dunne reports on Washington's attempt to extend extra-territorial sanctions  
**Uncertain future for the U.S. export act**



Sen. Tsongas: controls are cumbersome

"I'm proposing, as part of the Act, that we set up armed guards at every toy store in our area to make sure that no Soviet agent sneaks in and buys 'Speak n' Spell'."

Although he was speaking tongue-in-cheek, Senator Paul Tsongas illustrates one end of the wide spectrum of Congressional thought on the future of the export Administration Act (EAA), which governs U.S. export controls. Of the 80 odd provisions contained in the House and Senate draft versions of a revised EAA, just 20 are similar.

It will only be through a mammoth compromise that a Bill acceptable to the President emerges from a congressional conference committee by February 29, when the old legislation, now extended twice, is next due to expire. In fact, so much of the new EAA is anathema to the Administration that the President is said to prefer a permanent extension of the current Act.

It is the EAA which gave him the authority to impose extra-territorial sanctions in a controversial and futile attempt to stop equipment sales for the Siberian gas pipeline project. The school of thought held by Senator Tsongas and most of the business community is that U.S. export controls are cumbersome, inconsistent and unnecessarily

redundant. Worst of all, they have failed to prevent the transfer of technology to Communist countries.

However, most of the leakage, they contend, has occurred through illegal activities such as espionage and theft, which the EAA does not address. In fact, they say, export controls have weakened the U.S. by frustrating the efforts of American business to compete in the international marketplace.

Regan Administration hard-liners, on the other hand, argue that "a virtual haemorrhage of strategic technology to the Soviet bloc" can be stemmed by tighter controls. They want the power to impose import curbs on foreign companies which violate multilateral export control rules.

To buttress its case for more control, the Administration gave wide publicity to an incident which occurred when the Commerce Department approved the shipment of a highly sophisticated computer system to an overseas company already under investigation and controlled by a man under indictment for violating U.S. export laws. The computer was seized minutes before it was to be shipped to the Soviet Union via Sweden.

The "near-miss" produced:

- New calls for a stronger role

by the Defence Department in controlling the flow of high technology exports, now monitored principally by the Commerce Department;

- An agreement between the Commerce Department and the Customs Service, designating Customs as the liaison agency with foreign Governments rather than Commerce; and,
- New, toughened regulations, proposed by the Commerce Department, limiting the use of multiple sales licenses granted to U.S. exporters of high-

technology products to non-Communist nations, which will add to the burden of U.S. exporters.

The last proposal is expected to produce fireworks, among both exporters and U.S. trading partners. Eliminating the use of multiple licences could place an impossible burden on the already over-trained resources of Commerce's Office of Export Administration. The number of single application licences issued could rise from 95,000 last year to 1m, according to some estimates, seriously delaying applications.

It is widely agreed in Washington that commerce issued the new proposals to head off attempts by the Pentagon and Customs service to get additional authority over export controls in the EAA. The Commerce Department, which is more sympathetic to business interests, fears being reduced to a paper shuffling operation to process only licence applications.

The rules would add new extraterritorial dimensions to export control, requiring importers of U.S. products to provide Washington with information about their customers. With various interests pulling in different directions, the shape of the final EAA, if it emerges at all, is unpredictable.

Thus far, the House of Representatives, in a Bill passed last year, agreed to bar the use of extraterritorial controls applied for foreign policy reasons, and it relaxed national security controls. The Senate Banking Committee, which has cleared a bill for floor action, gave the President the power to impose import controls, gave business a strong "contract sanctity" clause and agreed to relax national security controls, but to a lesser extent than the House.

Both houses are expected to call for the strengthening of Cocom controls and to demand a liberalisation of controls on products available to Communists in other Western nations.

"The problem," says Mr. Richard Ferle, assistant secretary of state of international security policy, "is coming to grips with the trade-offs that have to be made and who's going to make those trade-offs." He believes, "it is better wrongfully to control than wrongly to licence."

This attitude towards trade losses infuriates the business community which says that the need to improve American export performance has never been more critical, and that the "business factor" of export controls means a dangerous loss of important U.S. markets.

**India plans \$2bn orders for airlines**

INDIAN AIRLINES and Air India are expected to spend over \$2bn in the next ten years on new aircraft, Reuters reports from New Delhi.

Indian Airlines' managing director Kamini Chaudh, told a news conference an official committee had considered the Boeing 757, the Airbus A300-B4, the Airbus A-310 and Boeing 767, among the possible aircraft that the two airlines could buy.

India is looking for aircraft with a seating capacity of around 200 and is likely to take a final purchase decision by June this year.

Philippine Airlines has sold two new Airbus A-300s it had in store at the manufacturer's plant in France, Manila Express writes from Manila. PAL originally ordered five A-300s in the late 1970s but only three were delivered because the projected increase in short-haul traffic did not develop.

PAL said the Airbus were sold to an unnamed German company. The aircraft are valued at about \$35m each. The proceeds are hoped to ease PAL's foreign-debt payments problems, aggravated by the weak Philippines peso.

Tea Domestic Airlines (TDA) plans to order two DC 9-81 jetliners from McDonnell Douglas, a TDA spokesman said, Reuters reported yesterday from Tokyo.

**Japanese win Singapore MRT contract**

By Chris Shevell in Singapore  
A CONSORTIUM linking the three Japanese electrical giants Hitachi, Mitsubishi and Toshiba has won a contract worth \$55m (€15.5m) to design, supply and install the air conditioning and ventilation system in Singapore's \$85m Mass Rapid Transit (MRT) metro system.

The MRT Corporation said in an announcement yesterday that HMT Consort had beaten five competing contractors through the quality of its design with its strong emphasis on safety and "an extremely attractive U.S. dollar financing package through which the effective cost of the contract was reduced substantially."

Also important was HMT's experience in other countries, notably on Hong Kong's metro system, for which it also won the environmental control contract. Reuters

**Business aircraft makers see sharp growth in 1984**

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

MANUFACTURERS AND users of business aircraft in the U.S. are hoping for a much better year in 1984 than in 1983, largely because of the general economic recovery, improved company profits and consequently improved spending plans.

Mr Edward W. Stimpson, president of the U.S. General Aviation Manufacturers' Association, which represents the builders of business aircraft in the U.S., said that during 1983, "a tough and challenging year," the industry built some 2,691 business aircraft, worth nearly \$1.5bn (€1.5m), or 36.9 per cent fewer aircraft and a 26.5 per cent lower value than in 1982.

During 1984, however, the industry — which also provides most of the business aircraft for the rest of the world — hopes to make a comeback, stimulated by the advanced technology and improved operating economy of the industry's new aircraft designs.

Mr Stimpson said that the U.S. industry expected to deliver 2,245 aircraft during 1984, or 21 per cent more than in 1983. The value of these aircraft would reach \$1.7bn, or about 16 per cent more than in 1983.

This figure would be divided as to 170 business jets, 375 turbo-prop aircraft, 590 twin-engine piston aircraft, and 2,200 single-engine piston aircraft.

Out of the 1983 total of 2,691 aircraft delivered, worth nearly \$1.5bn, exports accounted for 19.8 per cent of the shipments and 21.7 per cent of the value.

While in some past years, exports have accounted for

**U.S. GENERAL AVIATION MANUFACTURERS' 1983 RESULTS\***

Manufacturer	Complete aircraft delivered	Net billing price (\$ millions)
Beech Aircraft	402	250
Cessna Aircraft	1,219	342
Fairchild Aircraft	39	77
Gate Learjet	45	198
Gulfstream Aerospace	71	436
Lake Aircraft	28	3.2
Mesa Aircraft/Mesa Air	36	1.4
Mooney Aircraft	154	na
Piper Aircraft	661	135
Schweizer Aircraft	27	2.4
Total	2,691†	1,469

over 30 per cent of the U.S. general aviation manufacturers' production and dollars, Mr Stimpson believes "that for 1984 exports will remain at the 20 per cent-or-lower level because of the continued world-wide recession and depressed economy."

"The strength of the dollar abroad has continued to hurt our competitive position, while making imports coming into the U.S. more competitive. Meanwhile, restrictive trade practices continue in a number of countries throughout the world, particularly in some of our best export markets."

**Caricom to probe breaches of rules**

BRIDGETOWN, Barbados — The Council of Ministers of the 13-nation Caribbean Community (Caricom) has agreed to establish a committee to investigate breaches of rules of origin for goods and other trade regulations, Mr Bernard St. John, the Barbados trade minister, said on Sunday.

It also urged Guyana and Jamaica, which recently devalued their currencies, to make a special effort to buy more goods from Caribbean trading partners. Mr St. John told a news conference.

The minister said the group had held two days of very frank discussions. Reuters

**How to drive a car on sugarcane.**



Take ordinary baker's yeast, add it to extracted sugar juice, and leave it to ferment. The result is ethyl alcohol. The residue fibre, left after sugar extraction, is used to raise energy for the entire process.

100 years ago Henry Ford designed his first car to run on ethyl alcohol. However, since gasoline was cheap and easy to produce, alcohol was "forgotten" as an automobile fuel.

Alfa-Laval, leaders in biotechnology, have found a new way to produce ethyl alcohol. Known as Biostil, it is a closed process — energy saving and easy on the environment.

It's being put to work in Brazil, a country which has quickly established itself as the world's leading producer of "green gas" — automobile fuel made from agricultural products.

In fact, by 1985 Brazil will have a million cars running on green gas — produced primarily from the country's gigantic sugarcane plantations.

Crucial to this programme are Alfa-Laval's yeast separators and heat exchangers. And not just in Brazil, but in plants throughout the world where ethyl alcohol is being produced.

Green gas is an environmentally acceptable substitute for oil: today, a decade after the onset of the oil crisis, cars in the United States are beginning to run on "gasohol" — nine parts gasoline and one part ethyl alcohol.

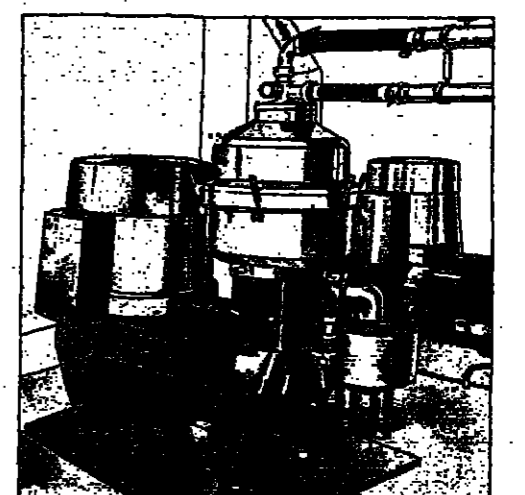
Devising a way to drive a car on sugarcane is typical of our innovative way of solving problems: all over the world we are finding new applications for well-proven Alfa-Laval product lines.

Ultimately, our aim is this: to find environmentally safe and cost effective ways of supplying the world's food and energy needs. This, we feel, is potentially the world's next major growth area.

In other words, we are creating new markets from great ideas.

**The Growing World of Alfa-Laval**

Alfa-Laval employs 18,000 people in 35 countries and its annual turnover of US\$1,100 million (a 13% increase over 1981) represents 10 consecutive years of growth. 87% of this turnover was derived from sales outside Sweden. Over the past five years, dividend growth rate has averaged 11.1%. Today Alfa-Laval's products and processes are solving problems in 125 countries and in over 170 industries — from energy production, environmental control and food processing to resource recovery, agriculture and chemical engineering.



For a closer look at the world of Alfa-Laval, please write to: Public Affairs Group Staff, Alfa-Laval AB, PO Box 500, S-147 00 Tumba, Sweden.

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**Creating new markets from great ideas.**

هجرى اصد الفهل

India plan  
\$2bn order  
for airline



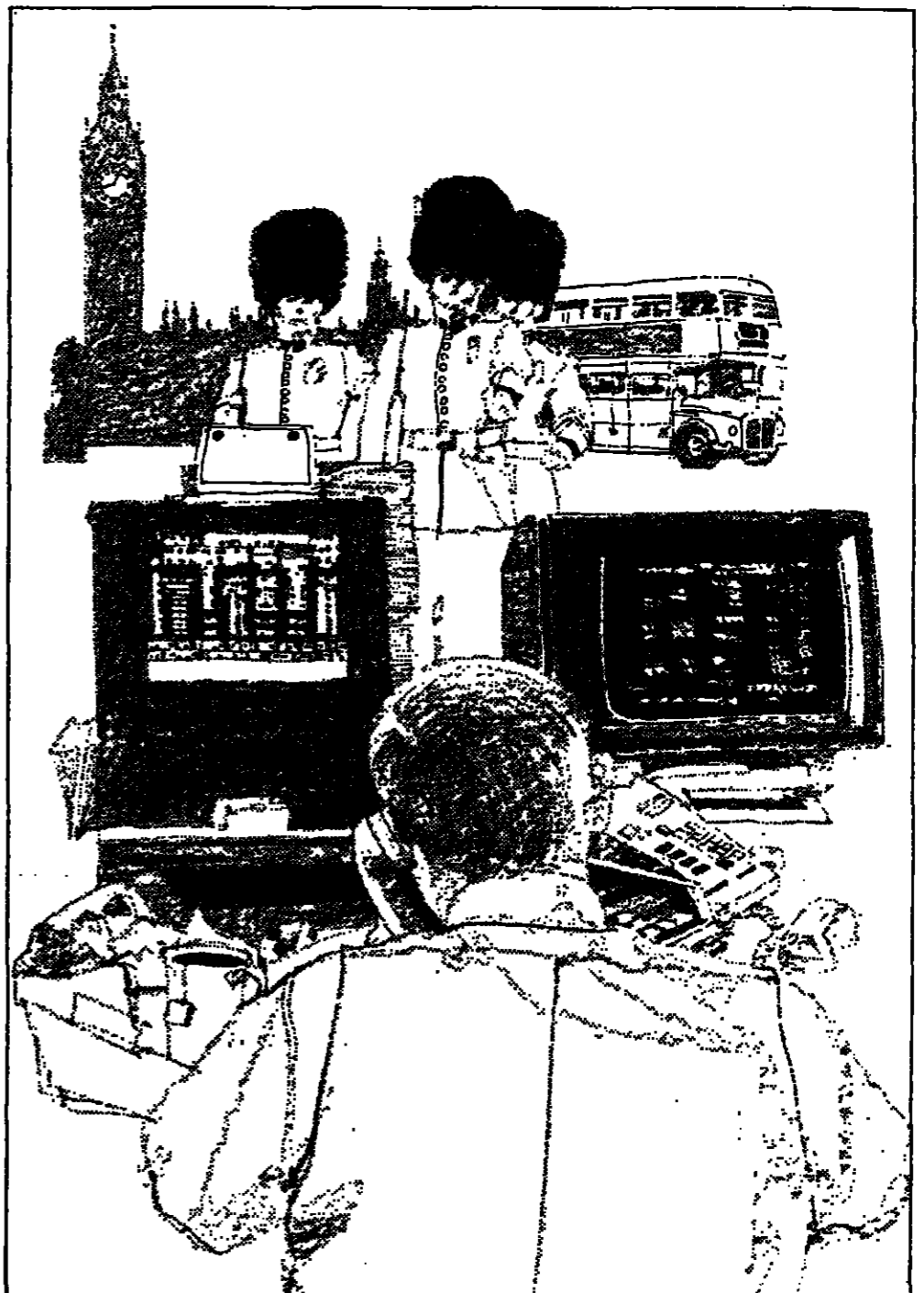
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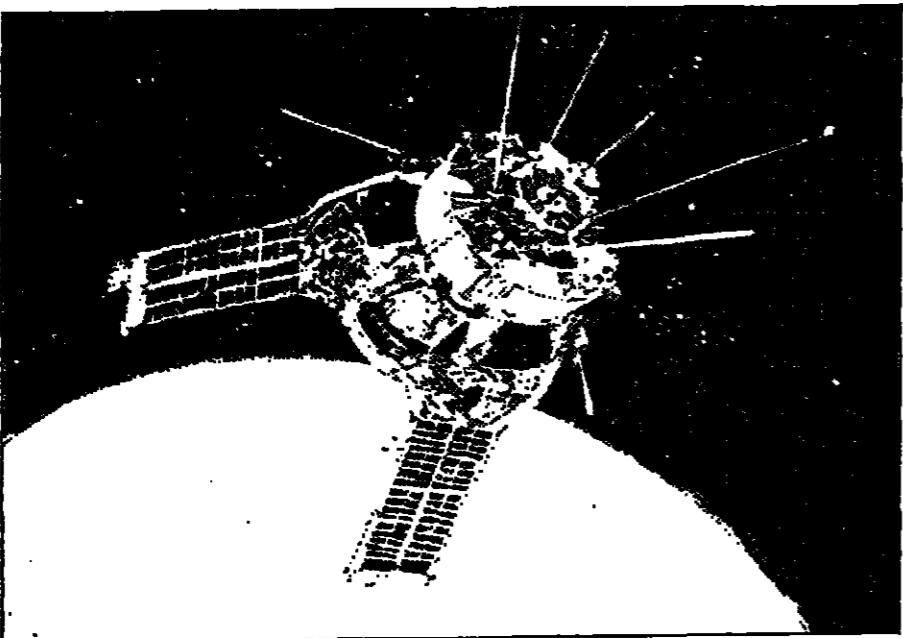
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UK NEWS

Unions may offer safeguard to prevent security centre ban

BY PHILIP BASSETT, LABOUR CORRESPONDENT

UNION LEADERS yesterday made clear to the Government that they were ready to examine measures to safeguard security at the top secret radio monitoring centre at Cheltenham, Gloucestershire.

Civil Service union officials, accompanied by Mr Len Murray, general secretary of the Trades Union Congress (TUC) are meeting Mrs Margaret Thatcher, Prime Minister, in London tomorrow to discuss a ban on union membership at the centre.

The Government believes the ban is necessary for reasons of national security, and wants to prevent a repetition of industrial action which in the past has disrupted work at Cheltenham. Employees have been offered £1,000 as compensation for giving up all trade union rights.

Indications in Whitehall last night were that Mrs Thatcher had no intention of allowing the meeting to become a negotiating session.

Left-wing members of the TUC's finance and general purposes committee were yesterday angered at suggestions that workers at the centre might agree to a no-strike agreement as a way round the ban.

Times in fresh bid to settle strike

TALKS between the management of Times Newspapers in London and leaders of the print union Sogat 82 start today with neither side optimistic about a quick breakthrough.

The dispute over the re-allocation of managerial duties in the papers' library has stopped production of both The Times and the Sunday Times since Friday of last week.

The board of Times Newspapers yesterday rejected an offer of talks at the conciliation service Acas, in favour of a face-to-face meeting with union representatives at the offices of the Newspaper Publishers Association.

About 1,400 employees have now been dismissed for "stood down" without pay, but Mr Arthur Britten, the Times corporate affairs director, said that there were no plans to issue notices to other employees.

The Times has now lost nearly £2m as a result of the dispute and says that both titles are now in jeopardy.

The clerical chapel (office branch) yesterday backed a continuation of the dispute, although some members of the Sogat production change have been hostile to the strike, and did not support action last week which led to the shutdown.



Mr Murray: 'onslaught on union rights'

Mr Murray said there had been "an unprincipled onslaught on basic trade union and human rights which is of the utmost gravity to the trade union movement as a whole."

The TUC committee was concerned that if the Government's move went unchallenged there would be a danger to the rights of many other workers in security areas, in both the private and public sectors.

Hodge bank applies for shares listing

BY ALISON HOGAN

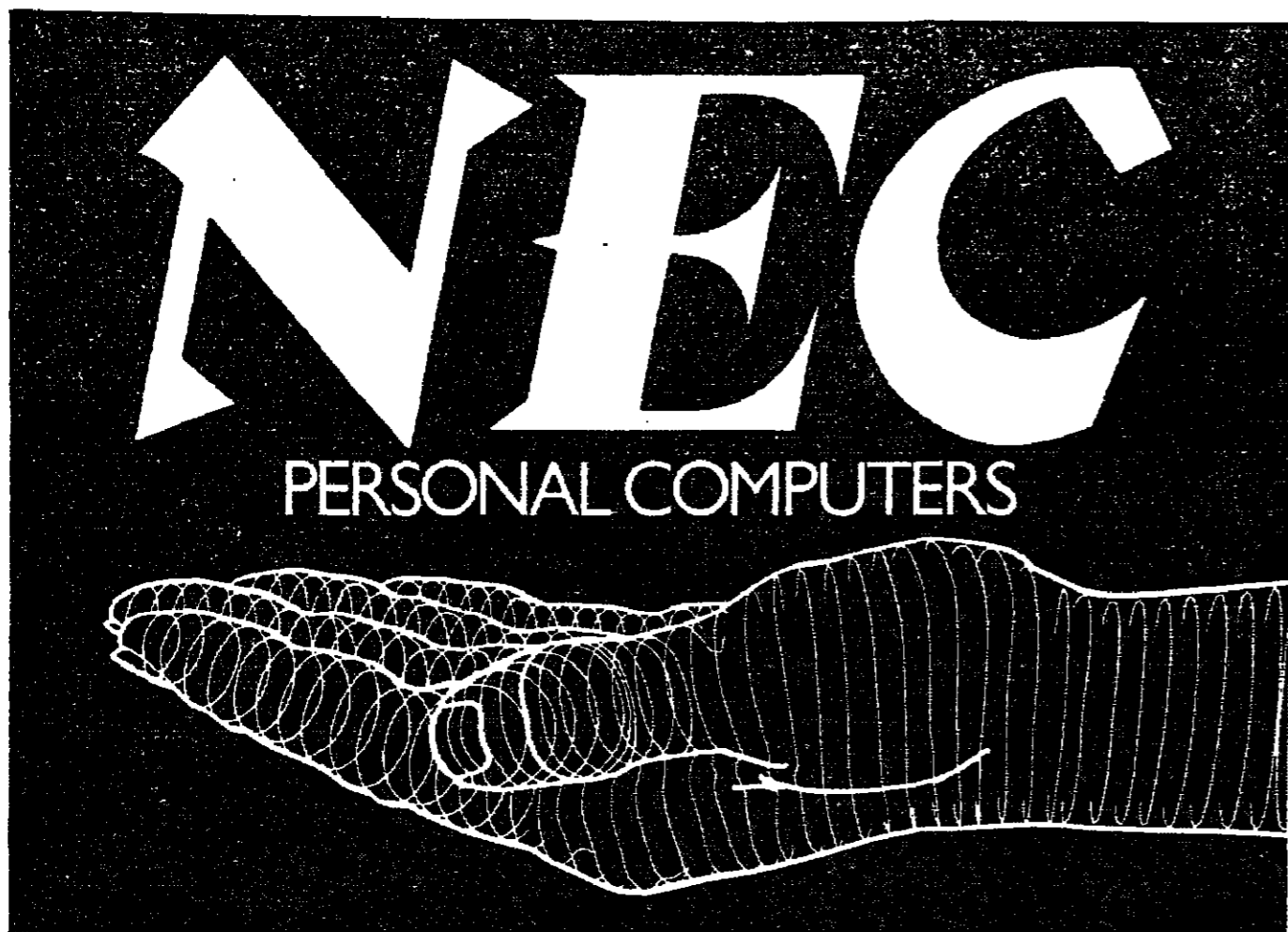
COMMERCIAL Bank of Wales, which was founded by Sir Julian Hodge in 1971 has applied to the London Stock Exchange for a listing of its shares planned for April.

appealed against the decision and in 1982 the bank was granted full recognition.

Mr Malcolm Thomas, chief executive, said: "One of the principle problems in gaining recognition was our lack of provision of finance for foreign trade, a side of the business we have now built up. We are operating from a much more stable base than we were four or five years ago."

The bank made pre-tax profits of £718,000 in 1982, pulled down by "a bad bet in Jersey and a lean year for instalment credit" according to Mr Thomas.

The lifting of hire purchase controls and a lowering of interest rates resulted in a "good upsurge in business" in 1983 which helped towards an 85 per cent increase in pre-tax profits to £1.33m in 1983.

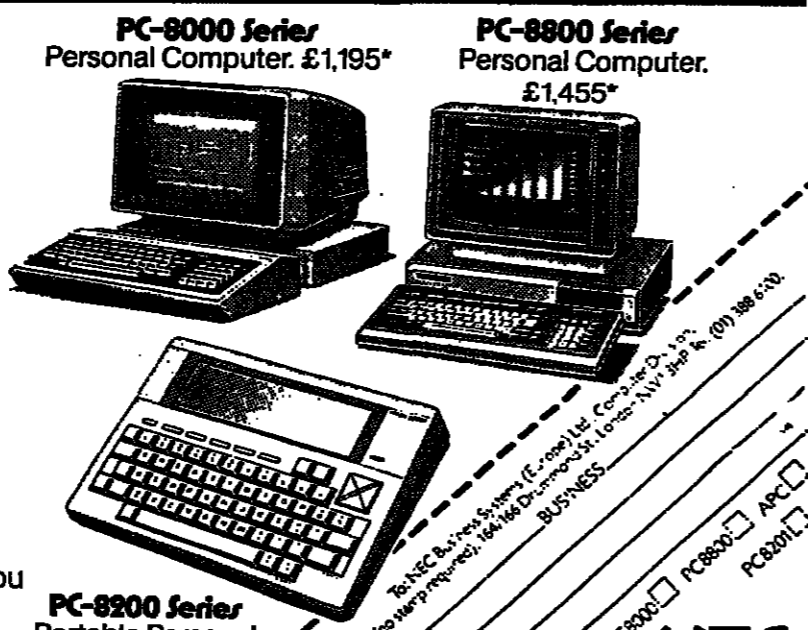


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UK NEWS

Market fears Bill could harm credit standing of councils

BY ROBIN PAULEY CONCERN IS growing in the City of London about possible damage to the creditworthiness of local authorities if the Government succeeds with proposals to limit the amount they levy in local property taxes.

Law may tackle hidden fees by money shops

A Government investigation into the activities of bureaux de change in Britain may compel some operators to be more open about their commission rates. Margaret Hughes reports

Canon consolidates UK lead in office copiers

BY RAYMOND SNOODY CANON, the Japanese office copier manufacturer, has consolidated its lead in the UK market, according to a new survey.

Canon consolidates UK lead in office copiers

launch of the new 10 Series machines by Rank Xerox in March has helped the company's market share, Mr Derrick was critical.

Table with 10 columns and 10 rows of bond redemption data for Ireland U.S.\$15,000,000 9% Bonds 1985. Includes columns for serial numbers and amounts.

Table with 10 columns and 10 rows of bond redemption data for U.S.\$2,400,000 nominal amount of Bonds. Includes columns for serial numbers and amounts.

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# TECHNOLOGY

EDITED BY ALAN CANE

## NEWS AGENCY LOOKS TO SPACE COMMUNICATIONS

### Reuters eyes the satellite way

BY PETER MARSH

REUTERS, THE fast-growing news agency, is considering an experiment in satellite communications as a way of distributing financial information in Europe.

Spurred by its success with satellite links in the U.S., the company may send information to subscribers in Europe via one of the new generation of space vehicles, the ECS-2 craft that is to enter orbit later this year.

Signals carrying financial and business data would be relayed by the spacecraft to antennas in regional centres in Western Europe.

From here, the signals would travel by telephone lines to subscribers' premises.

The plans are still at an early stage and depend on negotiations between Reuters and national post and telecommunications administrations.

Reuters sends information electronically to about 40,000 terminals on customers' premises in Europe, Asia and North America. Most of this information is sent by high-speed land lines.

But in recent years the company has successfully introduced satellite services to customers in the U.S. Here, the company has set up about 1,000 small "dish" antennas on office roofs.

These aerials, about 70 cm in diameter, receive financial in-



Hugh Routledge

With electronic news already well established, Reuters use of satellites could give it a more economic way of transmitting data around Europe.

formation directly via a geostationary satellite. The service, introduced less than two years ago, cuts out the use of land lines.

As a result, Reuters can distribute data more economically, particularly in remote parts of the country.

This application of satellites follows an earlier Reuters service, introduced in 1978, that sends data via an RCA satellite to six regional centres. From these points, the infor-

mation is channelled to customers' terminals by cable.

Reuters' new "small dish" system has spent good business for Equatorial Communications, a company in California that leases transponders on satellites and then resells them to organisations such as news agencies.

Associated Press and United Press International, as well as Reuters, rent communications hardware from Equatorial Communications in this way.

The Californian company, which started operations only two years ago, handles the flow of data to about 10,000 small antennas for offices throughout the U.S.

Sales have increased from \$8.6m in 1982 to an estimated \$17m in 1983. Growth has been so rapid that Equatorial Communications wants to launch in 1987 two satellites entirely for its own use.

At present the company has leasing arrangements with Western Union and Hughes Communications, both of which operate their own spacecraft.

Dr Edwin Parker, a director of Equatorial Communications, says he "sees the potential" of small-dish business services in Europe.

But he says the shortage of high-power satellites for Europe may delay such schemes.

### Crucial tests approach for cable TV

WHEN ENGINEERS make something possible, if it is really important three other phases will follow. The politicians will find ways of exploiting it, the economists will wrangle with statistics to test its viability, and last of all — if it survives these hurdles — others must move in to make it work commercially. Such has been the continuing saga of cable television in Britain, and only now is that final and crucial commercial stage arriving.

In recent weeks the newly-expanded cable TV industry in the UK has been in a flurry of activity, suddenly faced with making the technology and the programming promises a working reality. For the cable operators, especially the 11 franchised for new installations, the engineering task alone is daunting enough — with cabling, switchgear, head-end equipment and subscriber converters for TV sets all due to come on stream in the coming months. Rediffusion, even for its existing 53 networks now about to be up-graded, has already placed initial orders for \$6m to cover satellite receiving dishes, control desks and a host of other TV equipment.

It is, however, the commercial challenge which now moves to the centre of the stage. Not only do the operators have to instal the service, they also have to sell it to the television viewing public, programme it and also find additional sources of revenue through advertising. Recognition of this commercial emphasis came last week with Rediffusion's announcement that a recruiting drive is being launched by the group for 1,700 new staff. Although not all of these jobs will be permanent, the significant point is that 1,300 of the total will be "salespersons."

As an executive from Thorn EMI recently said — "every one involved in the cable business in any way has to be a marketing person." The reasons for this are simple. Some forecasts reckon that for new UK cable operators to return a profit in their guaranteed life span (12 years for some) they must reach a minimum take-up rate of 30 per cent of households in their area — probably even 50 per cent. Cream on the top might be advertising revenue.

There is, however, another

one of those transatlantic words creeping into the vocabulary to disturb the cream and worry the commercial people — "churn." This is the turnover in subscribers, the defaulters who fail to remain loyal to the service. In the U.S., some research has claimed churn rates — that is disconnections — between 3.9 per cent to as high as 13 per cent per month. Conventional magazine publishers would go into a coma if faced with such figures.

It comes as no surprise, therefore, to find that the cur-

rent activity in acquiring programmes for the new services is dominated by price sensitivity. Whole programme channels are being signed up by operators at rates generally from 10p to 25p per subscriber per month — and some of these channels will provide as little as three to four hours per day, repeated perhaps two or three times.

It is now that the commercial pricing policies have to be hammered out — setting standards of practice where none existed before. On the premium service channels running feature films, a different strategy is emerging. The operators are generally agreeing to share subscription revenue for these channels with the programme providers on a 50/50 basis — probably pitching the subscriber rate at up to £5 per month (over and above the basic service charge which may range from just under £5 per month upwards, depending on the local service provided).

For the 11 new operators, who will provide many more channels than the four generally available on existing

systems, extra services for additional payments will be offered — such as the games channel from W.I.L. Smith.

Nonetheless, the pressure to keep prices down is such that many channels will look instead to advertisers to boost revenue. Some bought-in channels acquired by operators will come complete with advertisements sold by the channel provider — but allowing scope for local advertisements to be sold by the operator.

Last week's news that the government will not require operators to limit advertising time to the six minutes per hour imposed on ITV may be of little comfort.

Cable operators are still discussing the actual advertisement rates but generally the principles established for broadcast TV will apply, based on audience size.

In the current commercial activity, it is important to emphasise the two kinds of cable TV service involved. With its fondness for enlarging our vocabulary, the industry has designated them "up-graded" and "new-build." The former are existing networks which until now have relayed broadcast TV (and in some cases feature films under the terms of a limited experiment sanctioned by the Home Office). The latter are the new networks which must provide greatly extended services and will not begin to come on stream until 1985.

Up-graded services are starting in some areas any time between now and March. Subscribers who have been receiving broadcast TV via cable will be provided with free serials and generally have four new channels available on the old cables. Thorn EMI are offering channels devoted to music, feature films, children and tele-text/teletext. Rediffusion similarly offer music and films, plus the general entertainment Sky Channel from SATV and Screen Sport's Channel.

At this stage, the government's hopes for a boost to the economy, and to technology, are being realised — in an extraordinarily short time. But to ensure that none of this occurs at the expense of the investors, the marketing men must do some hard trail-blazing in the wake of the engineers.

Video & Film  
By JOHN CHITTOCK

It is the commercial challenge which moves to the centre of the stage

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#### Measurement

### Automatic changer

THE PROBES used in coordinate measuring machines made by Carl Zeiss can now be changed automatically, in the fashion of the automatic tool changers used in modern machining centres.

Using the equipment, which is available for retrofitting from Hahn and Kolb, Rugh, the measuring machine becomes able to inspect a mix of different products without manual intervention.

The probe changing device is based on a magnetic coupling in the probe head which allows the head to grip or release a probe under program control. Recalibration after a probe change is said to be unnecessary. The system can handle arrays of probes as well as single devices.

Workpieces are placed in holding devices on the table of the machine which can then inspect them automatically, using data drawn from the controlling computer. The machine could therefore run unattended, say at night when the workforce has gone home. More on 0788 74261.

#### Medical

### Ultrasonic eye-scanner

HARWELL has developed an ultrasonic imaging and recording system for the ultrasonic eye scanner at the Moorfields Eye Hospital.

It displays the ultrasonic images of the eye onto a standard television screen. This is then recorded on a standard videocassette recorder.

Such recordings can then be stored for later analysis, used as a guide during surgery and used as reference for treatment sessions. In addition it can be used as a teaching aid by the hospital.

#### WHITECHAPEL WORKSTATION

### GLC backs UK computer company

DUE TO be launched in February is a powerful 32-bit computer workstation with a price tag more suited to a machine in the personal computer category, about £5,000.

Whitechapel Computer Works, a hardware manufacturer based in London's East End, is producing the machine. The company, which has been in existence since the end of May last year, owes its birth at least in part to the Greater London Council.

Funding from the Greater London Enterprise Board (GLEB), created by the GLC early last year, enabled the firm to start up. GLEB invested £100,000 and now owns a 30 per cent equity in the com-

pany. WCW, however, is now going out for second-round financing to coincide with the launch of the machine.

The workstation is designed

to be as powerful as ICL's Perq or Rank Xerox's Star, but has a much lower price tag. Initially it is aimed at the scientific and technical user. It is based on the National Semiconductors' 18032 chip, which gives it full 32-bit arithmetical capability. Integral to the machine is a

half-megabyte user RAM, a floppy disc and a 10-megabyte hard disc. The machine is being referred to as "a personal workstation"

and its makers believe it to be the first of a new generation of machines which are priced at the top end of the personal computer bracket but has the capability of a powerful graphics workstation.

GLEB still retains close contact with WCW through Andrew

Hartwill, an executive in GLEB's technology division, who is also a non-executive director of WCW. Mr Hartwill said the launch of the new machine "demonstrates our (GLEB's) commitment to fostering new-technology manufacturing in London. Whitechapel have themselves demonstrated precisely the viability of this concept." He added that GLEB hopes not only to have created jobs by funding the concern, but also to continue to learn about the computer marketplace from its sustained contact with the young firm.

WCW employs seven people but it hopes to grow to a workforce numbering 70 by the end of the fiscal year 1985-86.

The company owes its birth, at least in part to the Greater London Council

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"It could have won our Financial Management Award.  
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"Finally, a good argument could be put up for giving SAS our Market Development Award.  
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THE ARTS

London Galleries/William Packer

Face to face with the famous and notorious

Our great collecting institutions forever face the unenviable chore of trying to square the un-squareable. Charged with the public duty of collecting and exhibiting their particular collections, as policy and chance alike direct, and with funds always so much less than adequate as to be quite unrealistic, they contrive more or less judiciously to squeeze the pint into the quart pot, which by degrees, eventually fills up. What would we really have them do? Shop collection, altogether, and leave to a thankful posterity finite collections, with gaps impossible to fill, and thus whole fields of continuing humane speculation impossible to serve? Even disperse what we already have, on the convenient but mendacious egalitarian principle that it would thereby have a hollow ring. All educated opinion agrees that what is currently proposed would in practice make things very much worse: which brings us to present shifts and stratagems. The National Portrait Gallery, like the Tate, is bound to monitor the immediate quite as much as the remote past, and like the Imperial War Museum, has to extend its scope beyond what is simply the best of its kind to what is relevant, useful, interesting, informative, apropos. It will naturally wish to acquire whenever possible true works of art, and it does indeed hold many fine and beautiful things, but other material of all kinds that falls within its brief — particularly material relating to any individual who has made a notable contribution to our national life — is their necessary complement: press photographs, snapshots, cartoons, caricatures, amateur efforts.

There has never been a proper display of the 20th century material, a fraction of it in the basement for a while, and more lately in halls and landings here and there. But now that the principal exhibition gallery on the top floor is in use, and the pressure on the other temporary showing spaces eased somewhat, the chance has been taken to reorganise, in whole, the post the suite of galleries at the top of the entrance stairs has been given over to a permanent though hardly immutable 20th century hang. The display is now up and running, which last word I use advisedly, for a principal feature of the installation is the use of turntables, 13 of them, each carrying four distinct groups of works.

Exhibition design is a new and doubtful discipline, but nothing that it perpetrates, however objectionable, is irreversible. Here the arches and arcades are perhaps a shade overbearing, the alleys a little narrow, some of the pictures a tad too high for comfortable viewing, and the moveable is disconcerting, to say the least, when the light first goes out and the wheel turns. But we get used to its little ways soon enough, and even forgive it for having a hold button to allow extended consideration, who is to say that the technology will not at last catch up with the idea.

There they all are, the famous and notorious, the talented and distinguished in their professional groupings, coteries, categories: athletes, poets, scientists, lawyers, film stars, actors, politicians, painters, soldiers, musicians, dancers, lords and ladies. The Sitwells have an enclave to themselves, and Dame Edith on tape. Face to Face with John Freeman; Ellen Wilkinson strides through Cricklewood with the Jarrov marchers; Stanley Matthews signs his autograph outside the changing room door; Beatrice Webb sits on the doorstep for her photograph by Bernard Shaw. The interest is as broad in scope as it is fascinating in detail, each item well chosen and to the point.

Inevitably, where all are equal as worthy subjects for



John Minton, Self-Portrait 1953, and Dame Laura Knight, Self-Portrait 1913, both from the New Twentieth Century Display at the National Portrait Gallery

the collection, some are rather more equal than others as art, and the more substantial works of art command attention by right, whoever the subject: Virginia Woolf a ravishing young woman of 20 in her photograph by George Beresford in 1902; or Vivien Leigh nearly 50 years on and quite as beautiful, by Angus McBean. But the painters have the advantage, those who paint themselves, perhaps, most of all. The Gallery has lately acquired an extremely fine double portrait of Maynard Keynes with his wife, the ballerina, Lydia Lopokova, in 1932, by William Roberts, as strong and unmanipulated a painting as he would ever make; but even that

must give place, in scale and simple effect, to Laura Knight's large portrait of herself at work in the life studio in 1913; or, in poignancy and concentration, to John Minton's rather smaller self-portrait of 1953.

The National Gallery's problems are not quite the same, centring more on the frightening prices commanded by the capital pictures than on quantity, and all the pictures in the reserve collection, other than those on loan or under restoration, are hung and may be seen, though the visitor may need to ask for the company of a keeper to do so.

The Capricious View (until March 18, then to Canterbury, Wolverhampton, Lincoln and Exeter), a touring show of only fifteen small 17th and 18th century Dutch and Italian paintings, draws largely on this reserve, offering a bare yet tantalising hint of what never been a rule requiring them to consult direct reality at all, let alone with any conscientious fidelity. And so here we long not only for the contemporaneous caprices of a Poussin or a Claude, or whoever, but an extended comparative jaunt through the pictorial imaginings of the centuries, back to the early Italians, away to India, China and Japan, and on down to the more feverish confessions of symbolists, metaphysicals and surrealists.

Margaret Price/Covent Garden

David Murray

Miss Price appeared on Sunday in the Celebrity Concert series with the programme of an international gladiatrix: mostly big songs, nothing experimental or out-of-the-way (unless you count Mozart's "Little German Cantata," which I think has been a Price piece for a long time)—simply a generous selection of the artist's most sung by top singers these days. She was in superb form. The front-stage platform at the Royal Opera didn't enhance the bloom of her full, rich soprano, but perfect control and expressive vitality made their effect anyway. Even her penchant for singing from the score didn't get in the way.

After Mozart's Masonic hymn to brotherhood, delivered with sustained fervour, Miss Price gave us Brahms, Strauss and Mahler. Contrary to expectation, perhaps, her Brahms wasn't at all a matter of chilly poise; there was cheerful Brahms and robust Brahms, affectionately rendered, and at the end of the group two songs of feeling: "Mittenwinter" and "Der Tod, das ist die kühle Nacht"—which she made exquisitely poignant. She did exact justice throughout to Brahms' formal son-shapes, regularly taking her interpretative point of departure from them (which bespeaks thoughtful Brahmsian) and not simply from the sentiments in the words.

Her Strauss and Mahler were just as rewarding. The piano sounded dry; partly the hall, partly the instrument, partly the pianist—but James Lockhart was always acutely sympathetic with his singer, even if he supplied little in the way of romantic sound-cushions. Of Strauss, "Du meinest Herzens Krönlein" was melting and unashamed, "Morgen" wonderfully intense. Miss Price's Mahler consisted of the five late Rückert Lieder (omitting the military vicereines), all of them glowing; perhaps the "Linden Duft" song ended irresolutely not quite rounded off, but "Um Mitternacht"—very difficult to bring off without its dark orchestral support—was a tour de force. The Celebrity Concerts are rarely so polished and satisfying.

Music of the Andes/Shaw

Andrew Clements

The excellent World Arts Season presented by Arts Worldwide and the Borough of Camden continued on Sunday at the Shaw Theatre with a series of the Sulca family from Ayacucho, Peru. They played violins, mandolin and Andean harp in a programme of music characteristic of the highlands of Peru, with its origins in a culture of the Incas and their Celtic-speaking descendants. Both instruments and music are a fascinating mix of native and imported elements. The splendid Andean harp itself, played here by Antonio Sulca, seems to have evolved from the Celtic instrument brought over by Irish Jesuits; in Quechua hands, however, it was developed extensively, its sound box greatly enlarged to give a resonant bass and sharp-toned treble, and prompting the highly audible bass lines typical of the music.

In the musical forms also European elements have been freely incorporated: strange to hear pentatonic melodies given unashamed diatonic cadences, to find violin figuration from the baroque and classical periods transposed as accompaniments to Andean dance tunes, to discover lopsided waltzes and foxtrots given a totally new (to British ears) flavour. Sr Sulca began the evening with a series of harp solos, demonstrating the capabilities of the harp and the basic feel of its music; when he was joined by three of his sons, the music became simpler, its harmonic and metrical structure more straightforward, the violins generally moving in rhythmic unison. Andean music seems to have been positively enriched by the acculturation of the 20th century; the freshness and innocence has been preserved.

Keeping the theatre alive in the North West

Any play that starts as it means to go on, with an exposition of the Special Theory of Relativity delivered by its formulator with the help of red-nosed clowns, deserves awe and admiration. Seriousness of purpose almost redeems the subsequent impression of an apocalyptic Einstein theory: Breadth plus Schools Broadcast didacticism over three hours equals boredom.

Act I of Norman Leach's *The Life of Einstein* (The Duke's Playhouse, Lancaster) is a crash course in the physicist's entry theories and unrecognised genius: Act II expands the political background of the interwar years. The last act—and a long evening is not quickened by false endings with such film-projected readings as "Einstein's Last Words"—focuses on the scientist's attitudes to atomic power and the Cold War.

Throughout, the cast of six retire to onstage changing-room benches, riving various white shirt and dark trousers to assume an epic range of Paris. The exception is Janice Jarvis's Rosa Luxembourg whose presence haunts Einstein like a conscience, comforting, arguing and exhorting.

Despite emphasis on the great

man's desire to "learn something of humanity, that other mystery," he remains less alive than his background or his achievements. No back-handed compliment intended, but Paul Bradley's Einstein is strongest when silent. When not pontificating (rarely) he passes with honour the good actor's acid test of knowing how to listen convincingly.

Apart from chunks of neat theory, we are treated to politicians in carnival heads conversing in doggerel ("It's those Spartacists I hate/I like my socialism moderate.") By the last act the rhymes, wittier beyond the call of satire, merely grate. Infinitely more shocking are historical facts reported when silent. When not pontificating (rarely) he passes with honour the good actor's acid test of knowing how to listen convincingly.

Martin Hoyle reports on two new openings in the north west which show the theatre defiant in the face of financial cutbacks

without the Duke's would be "a boring dead place"; and rest my case.

Few Prosperos acknowledge the final curtain of *The Tempest* with a standing back-somersault; or deliver lines flat on their back, legs in the air, with Ariel perched on their feet. Glen Walford's production for the Everyman, Liverpool, sees the magic island as a circus ring peopled by clowns and acrobats. Within limitations this streamlined version works well enough to evoke occasional rough magic.

On the central podium the striking-looking black ringmaster cracks his whip like something out of *Lulu*. The company enters as a parade of clowns. On trundles the grey-skinned Ariel on a giant hammer's wheel; the young lovers are suspended in a skeletal crescent moon high above the action. Actors awaiting their cues sit round the ring adding to the isle's noises by humming or playing instruments.

Textual cuts can be condoned, given the Everyman's predominantly young audience and, less pardonably, the unevenness of delivery that extends to a Ferdinand more expressively on clarinet than vocals. Purely verbal irony is skated over and too often the verse is simply blank: a feeling for the rhythm would have precluded Caliban's insertion of an extra word into his "sweet airs" speech. Significantly, Stuart Organ, with RSC experience, contributes a clearly-spoken and therefore intelligent old Gonzalo.

Ricco Ross, from TV's *Hill Street Blues*, is a vigorous young Prospero whose writing before the conspirators' plot suggests the inner torment of long self-exorcism come to fruition. When happier with his clipped patrician English, he may deepen this sombre interpreta-

The Man of Mode/Richmond

B. A. Young

The Orange Tree shows its usual courage in playing a Restoration comedy on a stage like a postage stamp, with one single item of scenery that was a lady's dressing-table one way up and a hiding-place for a parson another way up.

Etherege's comedy, in this production under Sam Walters, has lost some of its fire, and seems to rely just on the simple comedy of the plot, which is like a game of draughts, where one piece is brought up against another and either takes it or is taken. The satire has leaked away. After Tom Georgeson as Dorimant and Christina Gresty as Mrs Lovel have played their last scenes together it seems natural, almost honest, that he should marry the innocent country girl Harriet, though any Regency rake could tell you that he'd be back in the Mall within a fortnight.

I think Mr Georgeson is too severe, too much weighed down by his life of sexual deceit. He'd have liked a sign of the beau who had every woman at his feet, who punctuates his lines with quotations from the poet Waller. (Mr Georgeson makes them sound like ecclesiastical texts)—possibly even a hint of a wig when he promises Harriet that "this day my soul has quite given up her liberty."

The young ladies pleased me better—Miss Gresty masking voluble charm under a thin veil of toughness; Belinda, who Liz Crowther makes the acme of innocence, all the more pathetic when we realise that she is likely to follow Lovel on the game; Joan Moon's round-faced Emilia, concerned as much to avoid the attentions of Old Bellair (Pascal Ward) as to attract those of his good-looking son (Richard Grant). The oldies, well played enough, suffer from Etherege's decision that they need only be stereotypes, and also from the Orange Tree's decision to dress everyone in "rehearsal costumes."

Everyone, that is, but the Man of Mode himself. Sir Fopling Flutter is distinguished from the mere Londoners in their St Michael's track suits by a complete Parisian air of cloth-of-gold. David Timson looks, and indeed plays, like Russell Grant on breakfast television. What he never suggests is that these new Paris fashions were supposed to be chic. Unless we believe in Etherege's cartoon of the manners of the age, we can't join in the satire.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

Opera and Ballet

LONDON

Royal Opera, Covent Garden: The Revival of *Wozzeck* is cast at strength — Jose van Dam, Anja Silja, James King, Donald McIntyre — and conducted by Christoph von Dohnanyi with power and eloquence. La Bohème returns with the Hungarian soprano Ilona Tukódy (Royal Opera debut), José Carreras, and Thomas Allen, and the highly gifted American conductor John Mauerci in charge (2401068).

English National Opera, Coliseum: A most gripping and beautifully sung *Turn of the Screw*, with particularly distinguished contributions from Jill Gomez and Philip Langridge, alternates in repertoire with *La Traviata*, in which Nelly Miricioiu introduces to London her fragrant, vocal, lusty heroine (3383161).

Sadler's Wells Theatre: The New Sadler's Wells Opera continues its latest season with a new production of *Pastorales* and a revival of last season's *Countess Maritza* (2788918).

Royal Opera House, Covent Garden: The Royal Ballet in *La Fille mal Gardée* (Tue)

by Giorgio Strehler, decor and costumes by Luciano Damiani, co-produced with La Scala, Milan. Michael Heintz as Pacha Selim and Catherine Malfitano as Constanza. *Le Fantôme de l'Opéra*, conducted by Marcel Landowski/Claude Schmitzler, choreography by Roland Petit, music by Marcel Landowski. Decor by Giulio Cottalacci at the Paris Opera (7423750).

Khorvasshehina, conducted by Wolde-mar Nilsson, produced by Pier Luigi Fizzi, choir conducted by James Johnson, Orchestre Colonne in the Grand Théâtre de Genève production with Maia Pissetskaia's participation. T.M.P.-Châtelet (233444).

Ariadone's *Tit*, with Carlotta Ikeda as soloist, choreography by Xo Muro-buch. An exclusively feminine ensemble in a brilliant demonstration of the Dutch Dance is followed by a re-staged *Phaëton* Dance Theatre at the Théâtre de Paris (2809530).

Wrselaw's *Pantomime Theatre* in King Arthur's Legend bridges medieval and modern times at the Théâtre de la Ville (2742277).

Le Roi Malgre Lui — a 3-act Opera-Comique, with Charles Dutoit conducting, Le Nouvel Orchestre Philharmonique, Barbara Hendricks, Christine Ede-Pierre and Gino Guelen in the title roles (Thu). Théâtre des Champs Elysees (7834777).

January 27-February 2

NEW YORK

Metropolitan Opera (Opera House): The first performance of *Stravinsky*, conducted by James Levine with sets by David Hockney, accompanies a week's performances of *Rinaldo* conducted by Mario Bernardi and starring Marilyn Horne, La Traviata with Kiri Te Kanawa, and Peter Hall's production of *Macbeth*, premiered last season with Renata Scotta as Lady Macbeth and Sherill Milnes as Macbeth. Lincoln Center (3809830).

New York City Ballet (New York State Theatre): The company's season of mixed repertory includes performances this week of *Western Symphony*, *Afternoon of a Faun*, and *Concerto*. Lincoln Center (8705370).

WEST GERMANY

Berlin, Deutsche Oper: To mark the 100th anniversary of Wagner's death, a world premiere of "Riccardo W" is offered this month. It is choreographed by Valery Fanni, danced to music by Richard Wagner. Giacomo Meyerbeer, Felix Mendelssohn-Bartholdy and Hector Berlioz. Soloists are Eva Evdokimova and Thomas von Caemmerberg. (Fri). Der Nussknacker, choreographed and danced by Rudolf Nureyev. His partner is Eva Evdokimova. (Mon)

Peter O'Hagan/Purcell Room

Andrew Clements

To his enterprising and nicely contrasted programme in the Purcell Room on Wednesday Mr O'Hagan proved a generally solid if unexciting guide. Boulez's piano music has by no means yet become a regular feature in recitals, and his third sonata is the rarest visitor of all. Yet Mr O'Hagan made it the main work in his first half, or rather those two formants of it, "Tropé" and "Constellation-miroir", that the composer permits to be performed.

It remains a challenging proposition for any pianist, technically and intellectually. Mr O'Hagan was only partially equal to it, for while he gave a good enough account of the bones of the sonata, he did not convey anything of its real character or give any reason why he should have (justifiably) included an extract from Mallarmé's "Un coup de dés" control told most of all; the clusters of scintillations that decorate the main paragraphs of "Constellation-miroir" glinted in his programme note. The fluidity, the quicksilver changes of mood and colour that aleatoricism introduces were all missing. A lack of textual only dully, while the haloes of harmonics were lifeless.

Monochrome pointing and stodgy rhythms also deprived Bartók's *Suite Out of Doors* of

vital interest. There was a genuine sense of rubato in the "Barcarolle" and "The Night's Music" but the latter was generally handled roughly, without any sensitivity to atmosphere. In two of Liszt's *Transcendental Studies* and Schumann's *Carnaval* purely technical deficiencies were more apparent, stilted passage-work that no amount of honest endeavour could hope to hide.

Saleroom Antony Thomcroft

Eleven Impressionist and Post-Impressionist paintings from the estate of Erna Wolf Dreyfus and Julius Wolf are to be sold at Sotheby's in New York on May 15. The saleroom is expecting the collection to make in excess of \$12m.

Works by Gauguin, Van Gogh and Degas are included, as well as four by Renoir, and paintings by Manet, Monet and Toulouse-Lautrec.

The attraction of the auction is that the collection was assembled around 50 years ago and the paintings will be fresh on the market. Given the current strength of demand for Impressionists, the prices could be much higher than Sotheby's estimate.

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THE MANAGEMENT PAGE: Small Business

EDITED BY CHRISTOPHER LORENZ

NatWest's 'flying doctor' service

LIKE IT or not, UK banks have been forced to rush to the rescue of hard-pressed companies during recent, tough years. Most have set up fee-charging business advisory services or intensive care units.

NatWest, the UK's second largest bank, by contrast, has set up a free flying doctor service: teams of bankers and accountants who call on troubled clients and try to help them get a grip on their problems.

"We find there's a crying need for the kind of help bankers and accountants can give," says John Melbourne, assistant general manager of the domestic banking division.

In the three years since it was started, the service, which goes by the bland name of the industrial unit, has grown to seven teams each consisting of a NatWest banker and an accountant on secondment from an accounting firm. Six of the teams are based in London, one in Manchester.

When cheques start bouncing or a client shows other signs of stress, a team visits the firm, spending three or four days sorting through the books and putting together a picture of the business. It then goes away and prepares a report with recommendations.

"We can get a lot more detail than the branch manager can," says Tony Hennessey-Brown, the manager of the unit. "People see us as independent investigators."

Invariably, the problem turns out to be poor financial controls, and the NatWest men try to advise on how they can be tightened up. But in one case they turned up evidence of

large-scale pilfering that the manager was not aware of, even though he was bothered by constant budget overruns.

NatWest's interest in providing the service is to protect its loans. But it also hopes to improve client relationships by doing something that is beyond the scope of the branch manager.

A typical client for the service has a turnover of between £1 and £15m and several million pounds of debt. At the moment NatWest is getting about 140 cases a year, and its "response time" to a call—which usually comes from a branch manager—is four to eight weeks.

When the job is done, the service "fades into the background," says Hennessey-Brown. But about 30 per cent of the clients do not make it through the first time and want the flying doctors back. If the case is hopeless, of course, a more drastic solution may be required which is beyond the unit's scope.

Not all the clients are necessarily in deep trouble. Some may just be growing too fast and are in need of a bit of financial education, but they are in the minority.

NatWest started the service, Melbourne says, partly because it was worried that fee-charging advisory services posed a conflict of interest problems. Could NatWest be both a disinterested adviser and a lender? And one problem was to get the flying doctor service accepted within NatWest itself. But branch managers who might have resented its special role now seem to recognise its usefulness.

David Lascelles

Tim Dickson highlights the importance of exporting and looks at schemes to support overseas sales

Tenacity is a necessity



David Gough (left) and Iain Croft: tough and protracted negotiations

"EXPORT OR DIE" is a stark enough choice. But a former sales director of Stockport-based Thermatic Engineering Services can claim that five years ago he almost managed to do both.

Following up a lucrative Eastern bloc contract for which the company had been short-listed, the unfortunate executive was forced to pack his bags when two plain-clothes militia men—evidently mistaking him for an imperialist spy—worked him over in the swing door of an East German hotel.

That, according to the present finance director, Iain Croft, was Thermatic's first attempt to break into overseas markets. And in the circumstances no one could have blamed the company if it had been the last.

In recent months, however, Thermatic has enjoyed considerably more good luck and, against all the odds, is now in the happy position of completing a £1.6m contract to equip seven Saudi Arabian chirpody and sun-stroke centres with fire prevention equipment and air-conditioners. (The hospitals—four at Medina and three at Mecca—are being built specially for the tens of thousands of pilgrims who flock to these cities each year.)

Besides gamely overcoming many of the obstacles facing first-time exporters—and learning some invaluable lessons on the way—Thermatic has shown that tackling an overseas market is one way, albeit highly risky, of combating recession at home. (The company is primarily a design heating engineer, and sub-contracts all manufacturing.)

It was Thermatic's sister company, Fireproof Sprinkler Systems, in fact, which ran into difficulties in the UK during 1981 and 1982. Most of its orders came from business customers carrying out instructions from their insurers to put in sprinkler systems—but when some aggressive American insurance groups entered the British market and waived this requirement, turnover at FSS suddenly fell away.

In an effort to replace these sales Thermatic got itself onto the British Overseas Trade Board's "Export Intelligence Scheme," which supplies subscribers with details of overseas inquiries for products and services and calls for tender at 35p per item. As a result of a lead from this source, David Gough, an FSS salesman, travelled out to Saudi in October 1982 and, following some tough and protracted negotiations, won a £1m order for fire protection equipment for the hospitals

from a local contractor, Alawi Tamsil. In December, Thermatic successfully bid for the air conditioning and chilled water systems as well, bringing the total value of the deal to £1.6m.

Considering the company's turnover was then a "mere" £1m in the UK—and the contract was due for completion in 14 months—those involved faced a major operational and financial challenge.

Most bizarrely perhaps, nobody at Thermatic will ever be able to see the fruits of their Saudi labours for only Moslems are allowed inside the City limits of Mecca and Medina. Sensibly the company overcame this problem by sub-contracting assembly and engineering work to a Turkish firm—which has fortunately proved reliable—but runners are nevertheless required to convey messages from the designers hovering at the City gates to those responsible for carrying out instructions on site.

The biggest challenge was undoubtedly how to finance such a huge "one-off" contract, insure against the foreign exchange risk, and ensure payment from the other end. "It was gross over-trading," admits Croft with a grin, though he adds that overseas contracts of this nature have got to be big to be worthwhile.

Since the Saudis had agreed to pay in United States dollars, Thermatic decided that it was vital to negotiate forward exchange cover when its own costs were calculated at a rate of \$1.55 to the £. After weeks of negotiations with its bankers, however, the company got a major shock when its bank explained that it required almost 20 per cent of the value of the contract (£300,000) to be offered as security (either through an unused borrowing facility or as cash on deposit).

While investigating the possibility of using the LIFFE market, Thermatic fortunately ran into the commodity brokers, E. F. Hutton, which agreed to a much cheaper deal than National Westminster and required "equity" of only 2 to 3 per cent of the contract.

A helping hand

The company did use NatWest to confirm a guaranteed letter of credit but, as Croft readily concedes, betrayed its inexperience by "doubling up" with cover from the Government's Exchange Credits Guarantee Department. "All we were in effect getting for a 0.55 per cent premium was guarantee against civil war in Saudi Arabia, war between Britain and Saudi Arabia and NatWest going bust. Next time we'll know better."

Financing the deal, meanwhile, was not helped by the voluntary liquidation of Fireproof Sprinkler Systems last February. As a result of the cross-debtures and cross-guarantees Thermatic's overdraft was withdrawn and the company's credit management skills were consequently put to the test. Agreements were reached for U.S. equipment suppliers to be paid in dollars on the same payment terms as Thermatic was receiving, while payment terms were pushed to the absolute extreme with other suppliers.

"Fortunately the domestic side of the business had a very good year and by its nature generates cash. But we still had to pay suppliers for £150,000 before we got our money and in October Jim went in and out over two days at the end of which we were £8,000 in the good. It all got a bit hairy."

Discussing his experiences in negotiating the contract, David Gough stresses the difference between selling in the UK and selling in the Middle East.

"The thing about the Saudis is that they don't seem to accept what you say on price. If you stand your ground they respect you but I was staggered how some of the big companies quoting for other parts of the contract were jolping vast amounts off their quotation. The same goes for the terms and conditions—we simply were not prepared to accept some of them but when they realised that they had pushed us as far as we would go they backed down."

Thermatic is now bidding for an even bigger Middle East contract while Gough, who bought parts of FSS from the liquidator with a couple of colleagues and is now on his own, is also increasingly active in export markets.

Gough, however, cautions: "If small companies think exporting is a panacea for all their problems, forget it. We were very very lucky. Other people have spent a year or 18 months bidding for overseas contracts and got nowhere."

"IT'S NO good sitting back hoping someone will turn up at your factory," says Gisella Burg about would-be British exporters. "Like our overseas competitors we've got to visit other countries, display our products at exhibitions and make as many overseas contacts as we can."

Burg should know. Over the past 15 years this former The Times Veure-Clicquot Businesswoman of the Year has built up the London-based Exportus, into a successful export marketing company for professional audio equipment manufacturers. But while her energy and personality have played a vital part in the achievement, Burg is the first to pay credit for the help provided by the Government's British Overseas Trade Board, on which she sits as one of the private sector's small firm representatives. "Eighty-two per cent of the BOTB's clients have less than 200 employees," she explains, "and many of the services are tailored for the smaller business. They are aimed very much at the many companies which have a good exportable idea but which lack the necessary financial resources or management skills."

Admiration for the BOTB—which operates through seven regional offices in England, and the Scottish, Welsh and Northern Ireland Offices in those parts of the UK—seems to be pretty widespread but its problem in recent years has been finding suitable exporters to support. An advertising campaign and a series of conferences were launched last year but Board members are aware that more needs to be done. They hope that fresh ideas will emerge from an overall review of BOTB services for small businesses currently being conducted by Burg and Board colleague, Roy George, chairman and managing director of Celluware, based in Consett, County Durham.

BOTB activities fall into three categories—financial assistance, specific information and advice—and are detailed in a newly updated booklet available from the regional offices or its London headquarters.

The Market Prospects Service, for example, is used by companies stung up an overseas opportunity. Carried out by the Commercial Department of the relevant embassy, it consists of a report on market conditions and established competitors,

plus an analysis of the specific prospects for the product and potential exporter. The £150 fee (which includes VAT) can be refunded as a contribution towards travel costs if an encouraging report stimulates an overseas visit by the BOTB's customer.

Funds, meanwhile, are available to finance between one third and one half of the costs of export marketing research (carried out by a management consultant or group of firms) while the Export Representative Service will help find a suitable agent, distributor or importer and the Overseas Status Report Service offers assessments of these representatives.

A much neglected service is Technical Help to Exporters, under which detailed information on foreign regulations and standards can be provided. Smaller firms can get up to £100 of help free and, as a BOTB spokesman points out, can be helped to avoid elementary mistakes. "We had a firm recently that shipped toasters to the Middle East but on arrival they blew up because the voltage was wrong."

Exporters visiting overseas markets as part of approved outward missions can get contributions towards their costs while financial assistance is offered to companies wishing to bring overseas businessmen into the UK.

Subsidised space is provided at overseas trade fairs and, under the joint venture scheme Groups of Companies in an Industry can stage a special exhibition overseas of their products.

The Export Intelligence Service used by Thermatic (see other article) has initiated £10k of British exports.

The Market Entry Guarantee Scheme is aimed specifically at small and medium sized firms breaking into overseas markets for the first time or launching a new export initiative. The BOTB will advance between £20,000 and £150,000 to finance half the cost of overseas such as setting up an overseas office, hiring staff, travel expenses and sales and promotional material. In return it makes a 3 per cent flat rate charge plus a levy on sales—calculated to give the Board its money back plus interest. If the venture flops, the Board funds any shortfall in repayment.

\*BOTB Services Booklet BOTB Publicity Unit, 1 Victoria Street, London SW1H 0ET. Free.

In brief...

THOSE running courses up and down the country may be interested in "That Giant Step"—a video about small business start-ups made by John Thompson of Huddersfield Polytechnic's Department of Management and Administrative Studies. It features seven quite different small businesses—ranging from a self-employed potter to the "organisation" entrepreneur—and deals with the problems faced, and advice and assistance available to overcome them. The video, which is not a teaching programme, can be obtained from John Thompson at the Polytechnic,

Queensgate, Huddersfield HD1 3DE. Tel: 0484 22288.

FOR those with an interest in private companies or any company owner wishing to know the financial position of his competitors, Jordans has just published its latest edition of "Britain's Top Private Companies—the third and fourth thousand." It complements Jordans' "Top 2,000" and covers those companies with a turnover of between £1m and £4.7m—giving details of sales, net tangible assets, profits or losses and a range of other useful financial information. The cost is £46, from Jordans & Sons, Jordan House, Branswick Place, London N1 6EE.

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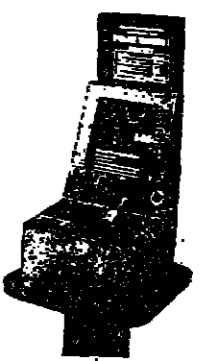
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# COMMERCIAL BIOTECHNOLOGY

## Where the U.S. sees the threat to its lead

By David Fishlock, Science Editor

THE U.S. has mounted a massive commercial effort to exploit biotechnology, an advanced technology which promises answers to some of the world's most pressing problems, such as disease, malnutrition, pollution and low-cost fuel. Yet it fears that Japan will repeat its success in consumer electronics and overtake the present clear U.S. lead.

Other countries are not considered to be in the running. Britain is thought to lack the "dynamism" necessary to get the best from such a broad-based technology. West Germany has problems in getting its academics behind biotechnology. France lacks the academic base needed.

This, in a nutshell, is the picture which emerges from a 60-page study of commercial biotechnology commissioned by the U.S. Congress from its Office of Technology Assess-

ment and presented to Congress last week. It analyses the reasons why the U.S. leads today, and the chances of the U.S. retaining the lead.

Its focus is what it calls "new biotechnology" for such biotechnology like the making of bread, beer and wine has ancient origins. New biotechnology aims to use scientific discoveries, techniques and inventions of the 1970s and since, such as the techniques of "genetic engineering".

Traditional winemaking is old biotechnology. But winemaking with a genetically modified yeast that allowed the wine to have, say, a higher alcohol content would be new biotechnology. It means building into the yeast a resistance to alcohol, which normally kills it at about 12-14 per cent.

Last year, U.S. investors in the private sector put \$1bn in small groups of scientists who had bright ideas for using genetic engineering to gain greater control over some such biological system. For example, they might propose to induce it to mass-produce pure interferon or insulin, or to give plants more resistance to frost or pests.

The report says availability of venture capital to start such new biotechnology firms

(NBFs), plus tax incentives provided by the Government, are very important to the development of biotechnology in the U.S. Of a total of 219 U.S. companies keenly interested in new biotechnology, it identifies over 100 NBFs started in the U.S. since 1978, many of which have already obtained second- and third-round financing. Between March and July last year, 23 of the NBFs raised about \$450m.

Partnerships for biotechnology research and development are expected to increase from \$500m last year to \$1.5bn this year. Corporate equity—although now diminishing—has also been important to the U.S. NBFs, providing over \$550m up to last August.

Outside the U.S., the environment is much less congenial for NBFs and few exist, it says. Venture capital has played "a very minor role in the commercialisation of biotechnology, because these countries do not have tax provisions that promote the formation of venture capital and investment in high-risk ventures."

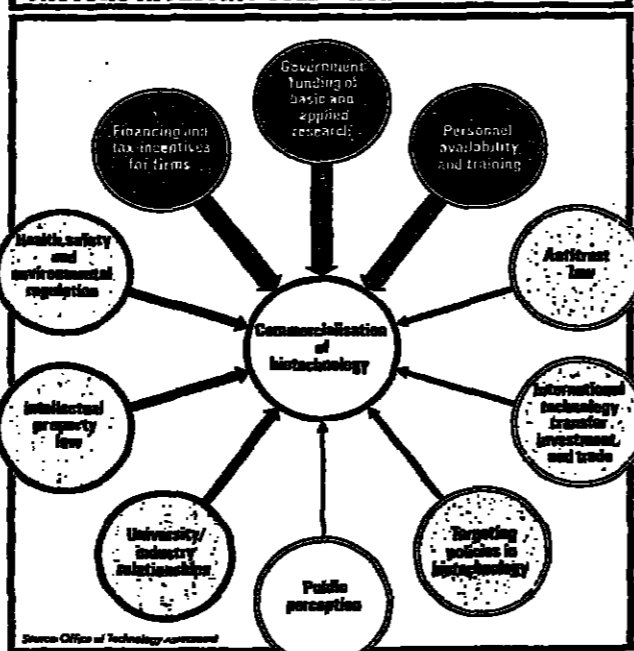
The U.S. researchers are left with no illusions that new biotechnology is anything but a high-risk venture. Self-financing for NBFs may still be five to 10 years away, they say, such are the hurdles their innovations must surmount. This is especially true for pharmaceuticals, which 82 per cent of the 219 companies are pursuing. They say it could take \$50-\$100m to bring each new drug to the market.

Finance and tax incentives for firms are singled out as one of the most important of 10 factors affecting the commercialisation of biotechnology (see diagram). Other dominant factors are government funding of the research base—generous in the U.S.—and the supply of trained people.

Outside the U.S., the researchers found relatively little interest in NBFs, and biotechnology almost exclusively to be the preserve of established companies. Japan, they say, considers "biotechnology to be the last major technological revolution of this century." It is being commercialised there by a wide range of industries, many of which already have experience of older biotechnologies.

Outside the U.S., Japan is the nation with most finance available for biotechnology. The Government has declared it a national priority and is backing joint company ventures. Most

FACTORS AFFECTING COMMERCIAL BIOTECHNOLOGY



Chris Walker

established Japanese companies in the field have at least one bank as a major shareholder, providing low-interest loans for R & D. Wealthy individual investors in Japan, although few in number, have also provided some risk capital.

Japanese companies began investing in new biotechnology only in 1980, in response to the overseas threat to its pharmaceutical industry. Since then, more than 150 companies have "rapidly reorganised their R & D systems, equipped research institutes, and recruited new staff to evaluate the applications of biotechnology."

In 1981, MITI announced a 10-year plan to promote "next-generation" industrial biotechnologies, focusing on bioreactors, genetic engineering and mass cell culture. It invited 14 companies to participate. MITI is providing over \$100m but 90 per cent of the R & D will be done in industry.

Five other Japanese government agencies are also funding biotechnology, and between them the Government provided \$67m last year, mostly for applied research.

The report comments on the "truly extraordinary" ability of Japanese companies to rectify shortages of skills by retraining. It found that in 1981

only 10 private Japanese firms had more than 10 researchers in genetic engineering. A year later, 52 out of 60 leading companies had reached that level.

West Germany: The study also sees Germany as a possible rival—although less so than Japan—because of the strength of the private chemical sector and recent interest shown in biotechnology. It sees the Greens as a potential threat to the progress of biotechnology led by such companies as Hoechst, Bayer and BASF, all of which have established co-operative research programmes with German (and, in Hoechst's case, also with U.S.) universities.

The researchers offer two reasons why they do not see Germany as a threat comparable with Japan. One is funding and administrative problems in German universities which reduce the quality of their research. The other is the inflexibility of Federal Government funding.

Britain: The UK has more NBFs than other European countries or Japan, but the study concludes that the large, established companies such as ICI, Wellcome, Unilever and Glaxo "will play the major role" in determining how competitive it is in biotechnology.

France: France is currently in a less favourable position to compete with the U.S. than Japan or the three other European countries already discussed, the report finds. It believes it lacks "critical mass" of talent in the relevant disciplines, and has problems in finding enough government cash to remedy the situation.

French national interest was aroused in late 1980 with the Peilsolo report, and the Mitterrand Government has since resolved to push biotechnology as one of several chosen

advanced technologies. France has the most highly co-ordinated policy of any of the six leading nations in biotechnology, the report finds.

Commercially, it "lags somewhat behind" the five already discussed. But if it can boost its manpower, "French industries could well gain a competitive footing in selected product markets."

Other competition: The report also discusses several countries not considered to be in the first league commercially, yet which are active in biotechnology. Sweden has bright ideas but "negative Swedish public attitudes" towards genetic engineering have inhibited progress.

Canada has designated biotechnology as a priority target but is short of people and of experience in getting government, universities and industry to collaborate. The Soviet Union is seen to have one major advantage over the capitalist system in that R & D is supported from inception through to production and distribution. Brazil is the only developing nation with a

### Semiconductors: the similarities and the differences

government policy for biotechnology but is short of people and capital.

How close is the parallel between the new biotechnology of the 1980s and the emergence of the U.S. semiconductor industry in the 1960s? This is a question of consummate interest to investors.

The study finds some similarities but bigger differences, chiefly because "biotechnology is not an industry but a set of technologies that can be put to use by many industries."

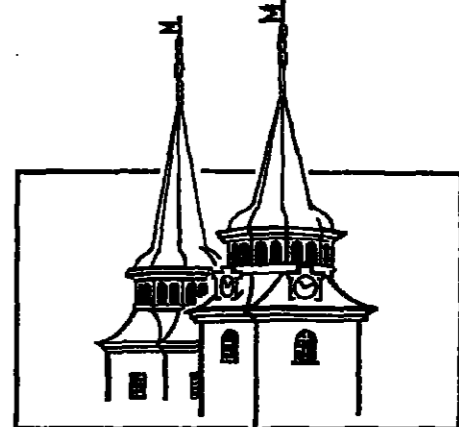
It concludes that whereas "market pull" gave the big impetus to semiconductors, in biotechnology the impetus has been "science push" from a big U.S. basic research programme in molecular biology, geared to find a cure for cancer.

It believes that NBFs currently face a very different, and much more complex, market environment than did the new entrants to semiconductors in the wake of Bell Laboratories' discovery of the transistor.

Commercial biotechnology: an international analysis. U.S. Government Printing Office, Superintendent of Documents, Washington DC 20540.

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The Renault Vesta doesn't look especially futuristic. But it achieves a very futuristic aerodynamic drag coefficient of 0.22, and could attain a dreamy 79 mpg.

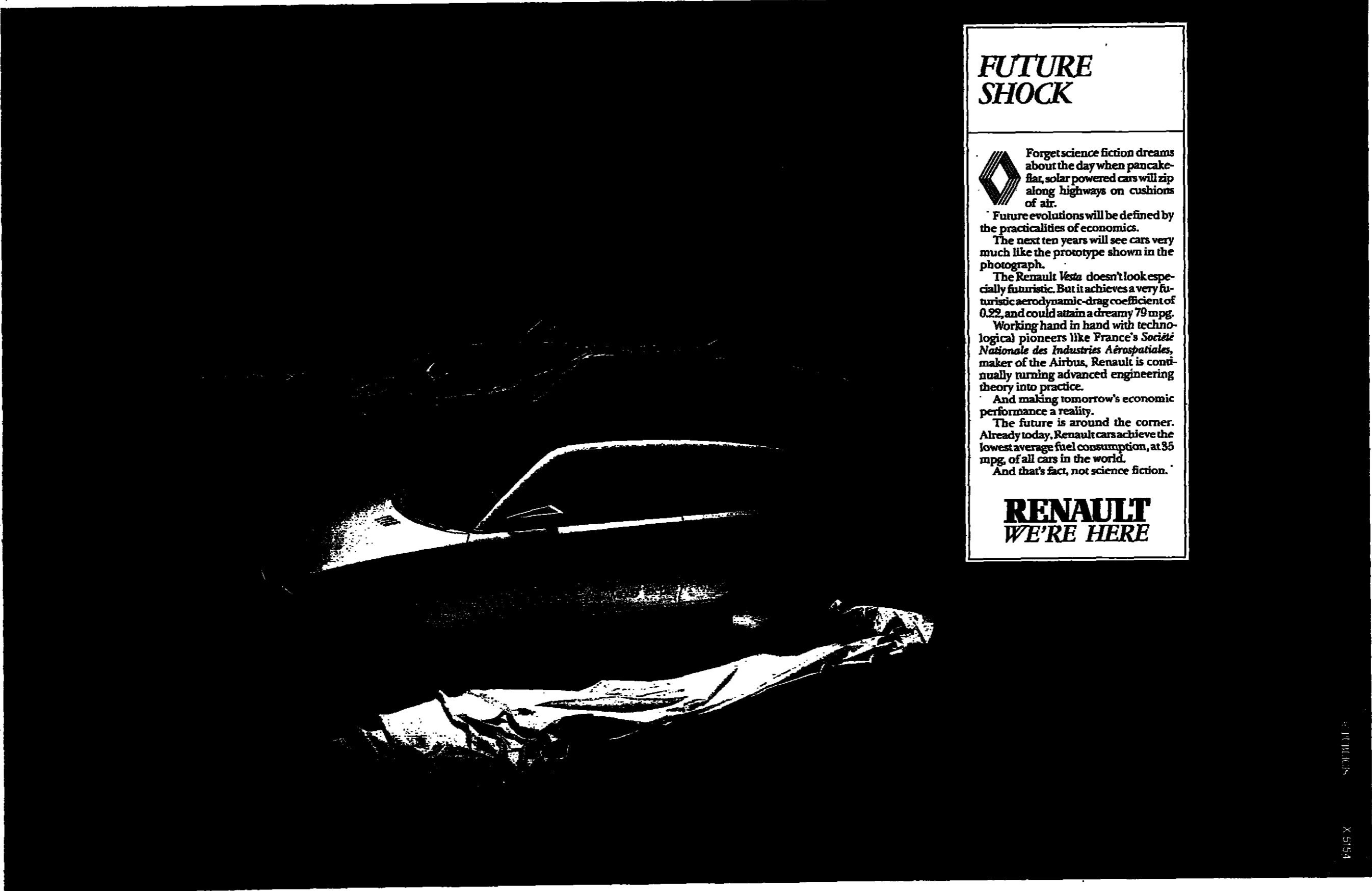
Working hand in hand with technological pioneers like France's Société Nationale des Industries Aérospatiales, maker of the Airbus, Renault is continually turning advanced engineering theory into practice.

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Tuesday January 31 1984

# Murder in Madrid

THE assassination in Madrid of Gen. Guillermo Quintana Lacaci shows once more how vulnerable democratic states have become to determined bands of killers. Whether it be the IRA in Britain, extremists of Left or Right in Germany and Italy, or gunmen from the Middle East in Austria; their murderous activities have not been prevented by the police.

So much should be firmly noted before examining the question of whether Spain is especially vulnerable and, more important, whether there is reason to fear for the stability of a country that emerged from dictatorship less than 10 years ago.

The answer to the first question, as to the vulnerability of Spain, has to be in the affirmative. The country has a tradition of political violence. Memories of the civil war in the 1930s are still alive. It has to contend with the aspirations of minority groups, the Basques, who have fretted for centuries under centralist rule from Madrid.

In addition, powerful elements in the country have no come to terms with democracy and with civilian control over the forces. They attempted a serious coup in February 1981 and another in October 1982. Disruption among some officers in conjunction with Basque terrorism creates an especially dangerous mixture.

By striking at individual officers the terrorists hope to encourage the military to withdraw and thereby weaken the civilian Government. It is not clear whether this has happened in the case of Gen. Lacaci: the police suspect that he was killed by Basque terrorists, but that has not been confirmed.

At first sight the choice of victim is perplexing. Gen. Lacaci was retired. Though he made no secret of his Francoist past, he had proved loyal to the democratic Government. The attempted coup of 1981 was foiled largely because Gen. Lacaci, as military governor of Madrid, denied his support. The terrorists did not strike at a diehard. They killed a man unlikely to sabotage government attempts to conciliate Basque sentiment. That may have cost him his life. Extremists often reserve special hatred for the less extreme among their opponents.

Though it has to be accepted that Spain is exposed to a heightened risk of terrorist attacks, there are encouraging signs that Spanish democracy is increasingly able to cope with such challenges. First and foremost one must cite the failure of

# Finance for small UK firms

THE Business Expansion Scheme, which was introduced in 1981 as the Business Start Up Scheme has proved to be one of the British Government's most imaginative ideas for helping small businesses. But in recent weeks the manner in which it is being used by some operators has attracted unwelcome publicity, raising questions which the Chancellor may have to answer by tightening up the scheme in his forthcoming Budget.

One of the difficulties for policymakers at this stage is the shortage of evidence with which to judge the success of any of the Government's measures to assist small firms—and the BES, which provides income tax relief on up to £40,000 of shares subscribed by individuals in most unquoted trading companies, is no exception.

It is already clear that the BES has been much more effective than the original Start Up Scheme (which limited relief to investment in companies which had been trading for up to five years) and conspicuously it has spawned a large number of managed funds which collectively have pulled in more than £30m from private investors.

This is a large pool of money for investment in the ordinary shares of unquoted UK businesses, much greater, for example, than last year's equity commitments by IFCO, the leading supplier of long-term funds for small companies. There is little doubt that it would not have been raised but for the Government's decision to increase the individual subscription limit to £40,000 a year and, crucially, to extend the relief to established companies as well as the riskier area of start-ups.

**Unseemly scramble**

Three developments, however, give cause for concern. Many of the BES fund managers have promised to invest their money before April 1 to ensure that the private investors for whom they are acting get tax relief on 1983-84 income.

It would do the BES no good at all if there is an unseemly scramble to throw money at any

**P**RESIDENT Ronald Reagan has finally made it official. After a "difficult personal decision," he has let the American people in on one of the worst-kept political secrets of the decade: he is to run for a second term in the White House in this year's November elections.

To suggest that anyone in Washington yesterday was mildly surprised would be an overstatement. Mr Reagan has for months looked every inch a candidate. But he managed to squeeze the last drop of drama out of what might otherwise have been a run-of-the-mill announcement by delaying it for so long—it was originally billed for early in September—and engaging in a teasing public game of hide-and-seek that left just the slightest nagging doubt about his real intentions until the last minute.

Now, he is eager for the fray. Since last week's upbeat State of the Union speech, Mr Reagan has been in a combative electioneering mood. Newsweek magazine shows him happily limbering up his hand-shaking muscles with a special fat-burner exercise device and for a man who will be 73 next Monday he is by all accounts in excellent health. (His age is probably less of an issue now than it was in 1980.) For two months now, money has been flowing into his campaign coffers—\$4.2m at the latest count—and over 2m more fundraising letters were specially mailed at the weekend to arrive immediately after Sunday night's announcement of his intentions.

His timing could not, as it turns out, have been better. He has cut the ropes that have held election season, riding a new wave of national popularity that makes him, according to more than one opinion poll, the most respected White House incumbent after three years in office since President Dwight D. Eisenhower in the mid-1950s.

Unlike most of his predecessors, Mr Reagan's approval rating has climbed during his third year, after hitting an all-time low 12 months ago in what was inevitably dubbed his "winter of discontent." He is likely to be the first incumbent president, again since Eisenhower, to have a higher approval for his party's nomination.

It is not, however, going to be all downhill from here. While his personal popularity may be on the rise, thanks largely to the recovery, Mr Reagan still creates deep divisions in an electorate that is concerned about many of his specific policies. He is potentially vulnerable on all of the three major issues—the economy, foreign policy and his particular brand of leadership—that now look like dominating the campaign over the coming months.

Some of his opponents argue that he has polarised the country so sharply between the haves and the have-nots that this will be the first "class" election in the U.S. in living memory. Mr Reagan's White

entrepreneur" who walks through the door.

Secondly, the BES is not yet penetrating the one area of the market where there remains an obvious equity gap—namely those businesses which require sums under £50,000.

Ministers originally hoped that modern Aunt Agatha—in the form perhaps of a doctor or a dentist—would use the Scheme to back local companies of which they had direct personal knowledge.

But while the City of London's participation is welcome, only local initiatives such as the one backed by an enterprise agency in the North West of England recently will really hit the scheme's intended targets.

Finally, there is the key question of which ventures are now attracting support.

A clear picture has not yet emerged, but it appears likely that established companies—undercapitalised but with some track record—could attract the lion's share of the money. This is acceptable so long as finance available for start-ups does not dry up.

More controversially, a handful of promoters are aiming to use the Scheme to finance farming. For example, the Hill Samuel Group is in the process of trying to pull in up to £15m for a new company, Beechbank Farms.

The farms which Beechbank buys will no doubt benefit from new investment and as long as the sums remain small other sectors are unlikely to suffer. It is nevertheless difficult to argue that farmers are a group the Scheme was intended to support.

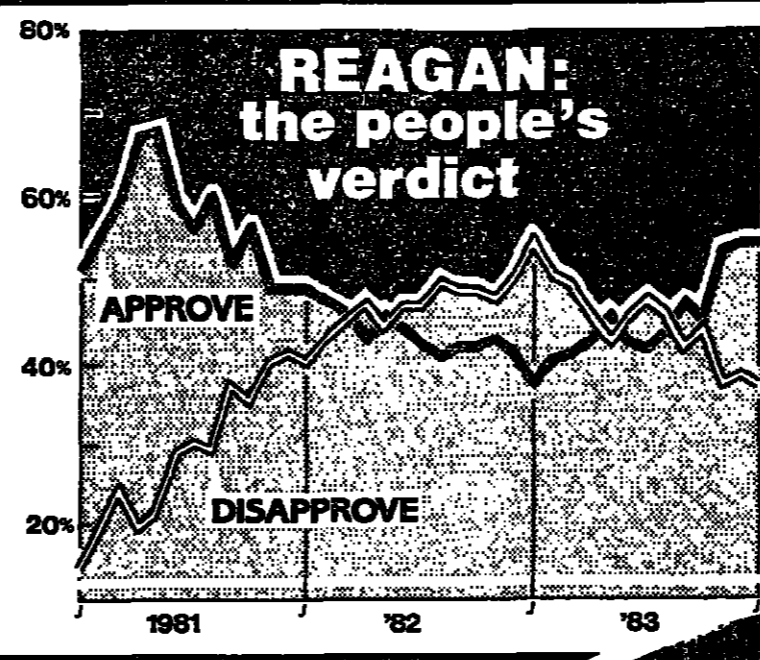
There are other examples where BES funds have been channelled into property-backed enterprises which would surely have found willing investors without the Scheme.

It may be that these apparent distortions are a price worth paying for the general benefits of the Business Expansion Scheme. But the Government needs to examine whether it is feasible to tighten up the rules (without creating too much complexity) so that the original aims of the Scheme can be fulfilled.

U.S. PRESIDENTIAL ELECTION

# Mr Reagan's strong hand

By Reginald Dale, U.S. Editor in Washington



Gallop Opinion Polls on his performance as President

House likes would not put it quite like that. "It's a battle for the economic middle as well as the political middle," says Mr Richard Wirthlin, Mr Reagan's pollster.

But the Republicans accept that Mr Reagan's lead in the opinion polls is likely to narrow after the Democrats select their candidate, and they fear that an international event beyond the President's control, perhaps in Lebanon, could play havoc with their calculations. "We're expecting a very close race and preparing for it," says Mr James Baker, the White House Chief of Staff.

For the moment, Mr Reagan's strongest card is the economy, a point underlined last week by a New York Times/CBS News poll that gave him the highest public approval rating for his economic policies since April 1981. Mr Reagan's campaign officials are keeping their fingers crossed that the current combination of healthy-looking growth, low inflation and declining unemployment will hold up until November, as the President himself vigorously insists that it will. If, before then, any of the indicators start to go even slightly sour, the Democrats will undoubtedly try to make the most of it.

Mr Reagan's main immediate concern on the economic front, however, remains the budget deficits, now running at about \$180bn a year, which he had pledged to eliminate altogether by now in his 1980 campaign. Tactically at least he acknowledged his sensitivity on the issue last week by appealing to the Democrats to share responsibility with him in tackling them.

But while the Democrats can be expected to keep pounding away at the deficit, they are finding it harder to attack Mr Reagan on the current state of the economy in general. Much of their fire is accordingly

now being directed at what is generally acknowledged to be one of Mr Reagan's weakest points—foreign policy.

Foreign policy would not ordinarily be expected to play a dominant role in a peace-time American presidential election. But this time there is an intensely emotional, and visible, focal point for national anxiety—the U.S. Marines in Beirut. Largely because of mounting misgivings over Mr Reagan's handling of the Lebanese prob-

lem, 50 per cent of respondents to one poll this month gave him a negative rating for his management of foreign affairs—as low as at any time in his presidency.

The same people who give Mr Reagan overall approval ratings of 54 or 56 per cent say by majorities of around two to one that he must bring the Marines home.

Mr Reagan would dearly love to do so. The problem, he said last week, is "how and when." He also said that he will not withdraw them for domestic electoral reasons, and there is a strong element of determination in his character, which suggests that he would not do so, as long as he felt that their presence was serving American interests, regardless of what his campaign managers might recommend.

Nevertheless national awareness of his difficulties in Lebanon kept alive by almost nightly TV news reports—has recently tended to spill over into concern on other foreign issues, including, notably, Central America, where there

are also fears that Mr Reagan will get the country into a war that could lead to American casualties.

The polls show that many Americans blame the Soviet Union more than Mr Reagan for increasing world tension, and believe that he has made the U.S. a "safer" place as he claims. But the euphoria that followed October's Grenada invasion has waned, and a clear 60 per cent earlier this month for having restored American strength and self-respect worldwide and revived the sagging morale of the armed forces—all of which he can claim he was elected to do in 1980.

Mr Reagan has changed the climate of political debate to the extent that not even Mr Walter Mondale, his supposedly "liberal" main Democratic challenger, wants to be seen as "soft" on defense. By the same token, Mr Mondale is energetically trying to avoid being cast as a traditional Democratic "big spender," whose policies would exacerbate the budget deficit.

What unites the Democrats today is a fervent conviction that Mr Reagan can and must be beaten before his economic, social and educational policies do irreversible damage to the fabric of American society, and, they would add, the prospects of the next generation. This is at the heart of what has become known as the "fairness" issue. Mr Reagan's perceived favoritism of the rich over the poor, the powerful over the weak, the polluter over the polluted, this is what has motivated organisations like the AFL-CIO, the country's largest union federation, to bury past differences in favour of an unprecedented, concerted drive for Mr Mondale.

Mr Reagan's advisers privately concede that the Democrats are more unified on this deep-seated issue, which calls the whole nature of his leadership into question—than they have been for years. Indeed, the President displays considerable sensitivity whenever he is publicly pressed on the "fairness" theme.

Mr Reagan has been most isolated doing his 95 job in the White House—than most past Presidents—partly because of the ever-increasing demands of security, partly by choice. The people he sees are mostly

either his closest advisers or well-wishing supporters.

The American dream has come true relatively painlessly for Mr Reagan, who started life in a humble small town in the Midwest. He sometimes gives the impression that he finds it hard to grasp how rough life can be for others, not necessarily through any fault of their own. He firmly believes that the capitalist system will look after those who embrace it weakly enough.

The Republicans dispute Democratic claims that such Reaganite attitudes have bitterly polarised the nation. Both sides were exchanging competing figures to prove their point at the weekend, with Mr Reagan's pollsters claiming that those "strongly disapproving" of him have now dwindled to less than 20 per cent of the electorate. The Democrats say that a "hard core" of Reagan supporters, composed of about 35 per cent of the voters, is confronted by a slightly larger group of 38 per cent who are "unilaterally opposed to him." The Republicans admit that, come polling day, they will have to win over a considerable number of the more numerous registered Democrats to repeat the success of 1980 and recapture the several million mainly younger, better educated, middle income voters who deserted Mr Reagan for the Democrats in the November 1982 mid-term election—a objective that is by no means out of reach.

Mr Reagan has little chance of holding even the 10 per cent of black votes he won in 1980 and for most of his life he has been energetically wooing the growing Hispanic vote instead. He still suffers from the notorious "gender gap," which shows his approval ratings nearly 9 per cent lower among women than men—another item of considerable concern to the White House strategists.

Mr Reagan has a big lead in rural areas—particularly in the "wide open spaces" of the West. The Democrats lead in the large cities, the East and their traditional southern stronghold. Suburbs and small towns, according to one pollster, are fairly evenly split.

All these factors could make the race closer than Mr Reagan's recent buoyant approval ratings might suggest. The Democrats believe that if they can turn it into a sufficiently "big stakes" election, they can mobilise previously apathetic voters and reverse the declining turnouts of recent years—after all, 55 per cent of Americans claim to be Democrats.

Mr Reagan, however, starts with a number of high cards in his hand and he can be relied on to play them with all the skills of timing and attention-grabbing that he has displayed in the past. Yesterday, the Reagan camp was cock-a-hoop about the prospects. But a note of warning was struck by Senator Paul Laxalt of Nevada, Mr Reagan's close friend and campaign chairman. "It's too good to be true," he said "and that makes me a bit nervous."

## The most respected White House incumbent since Dwight D. Eisenhower

Mr Reagan's approval rating has climbed during his third year, after hitting an all-time low 12 months ago in what was inevitably dubbed his "winter of discontent." He is likely to be the first incumbent president, again since Eisenhower, to have a higher approval for his party's nomination.

It is not, however, going to be all downhill from here. While his personal popularity may be on the rise, thanks largely to the recovery, Mr Reagan still creates deep divisions in an electorate that is concerned about many of his specific policies. He is potentially vulnerable on all of the three major issues—the economy, foreign policy and his particular brand of leadership—that now look like dominating the campaign over the coming months.

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## Men & Matters

### Hodge's double

At 79 years of age Sir Julian Hodge, the Welsh financier, looks like pulling off a notable double if he succeeds in securing a full London stock exchange listing for the Commercial Bank of Wales early in April.

Hodge will be redeeming a promise made to shareholders when he launched his idea for a Welsh "bank" more than 20 years ago: that it would have a full stock exchange listing. And he will, he confidently believes, be the oldest businessman ever to bring a company to a listing. The latter claim, he agrees, is open to challenge. His heavy research yesterday failed to unearth one.

Hodge has been controversial always; but dull, never. His varied business lifetime provides a bedtime story of poor fortune as a railway clerk in Cardiff he sold insurance round the working-class streets in the evenings.

Hodge has given away more than £35m to charitable foundations but, nevertheless, owns to being "very rich"—on the yardstick that such a rating starts with personal assets of more than £10m.

Work is still his pleasure and he puts in a 7-day week. His concessions to advancing years are a mid-week round of golf for exercise—"I go back to the office after, of course"—and short working days on Saturdays and Sundays finishing at 2 pm.

That is the Hodge who has become a Welsh folk hero in his time and has attracted investor deposits of £44m into his Commercial Bank of Wales.

But there is a darker side to the man which has surfaced from time to time in public criticisms of his business methods.

Twenty years ago Hodge was admitting with a grin, "It was the incredible honesty of a British motorist that saved me from going right under." He was emerging from a period

when his activities were described by one writer as "getting into one sticky situation after another."

His Hodge Group, a sprawling empire of banking, hire and property, had just been reorganised with outside help. He had financed carbuyers using such a muddled computer system that, as he admits, "We could not back-check on who had paid and who hadn't."

Hodge, a Labour Party supporter, and a devout Roman Catholic, had a dream. He would found a Bank of Wales, supported by the savings of the Welsh nation, to spearhead the industrial regeneration of the Principality.

When it came to pass in 1972 he had powerful political support. Cardiff MP James Callaghan, later to be Prime Minister, was a member of his original board. So was another Cardiff MP, George Thomas, who went on to be Speaker of the House of Commons.

But Hodge's "bank" was not in the full-blooded form he had envisaged. The authorities jibbed at a Bank of Wales—it might be misunderstood abroad as being a central bank—and insisted upon another name. He was pressed to accept "Investment Bank of Wales" and settled for "Commercial Bank of Wales."

The new business had a difficult start in the 1970s and in 1981 was told by the Bank of England to stop calling itself a bank. But less than a year later the Bank of England relented and granted the Commercial Bank of Wales full banking status. Threedeeds Street liked the look of the flow of foreign funds into Cardiff.

Hodge said at the time, "All Wales will rejoice at the news." He identifies his forthcoming stock exchange listing just as strongly with the Principality. Really, trading under Rule 163 does not seem suitable for a recognised bank so representative of Wales," he told me yesterday.



"It's all very well paying £1,000 for giving up union membership... what happens if it proves to be a runaway success?"

### Elf struck

Michel Pecqueur, brought in last year to head Elf Aquitaine, the state-controlled French oil group, fielded some awkward questions on the "oil sniffer" affair yesterday with great, and genteel, aplomb.

A genial man who, from some angles at least, bears a striking resemblance to Helmut Kohl (though Kohl has more hair) and exudes the same bass-voiced bonhomie, Pecqueur was delivering Elf's 1983 results—which confirm the group as France's most profitable enterprise.

Elf would be "drawing consequences" from the scandal, Pecqueur said, but it belonged firmly in the past, a "limited" episode in the life of the group.

Considerable mystery still surrounds the FFf 500m Elf paid during the late 1970s for the electronic oil-detection method subsequently found to be worthless. Pecqueur promised that the company

would do all it could to shed light on the affair—but did not say how or when.

Pecqueur deftly parried any attempt to find a scapegoat in either of his immediate predecessors, Alain Chalandon and Pierre Lasserre. The group should be judged, he said, by all its activities and not by just one "painful" event eight years ago.

### Owen's trip

At least the thought had Dr David Owen musing in Tokyo last night. There was the leader of the Social Democrats in the Japanese capital just as Nissan was beginning its final debate over whether to invest in the UK. Had he not, it was put to him, contemplated a Jesse Jackson-style mission from which he could claim the credit for bringing the Japanese car company to Britain?

Owen had to confess that he had not thought of it—though he has been discussing investment, among other things, and was yesterday moving in the upper reaches of Japanese political society, meeting Prime Minister Nakasone.

Owen's mission, in fact, has been to get together with Saburo Okita, former Japanese foreign minister, and Zbigniew Brzezinski, Jimmy Carter's national security adviser, to hammer into shape a report for the Trilateral Commission (which groups together luminaries from the U.S., Europe, and Japan) on how to revitalise the global economy.

The report is due out in April and, Owen hopes, might serve to focus the minds of heads of government at the London economic summit in June.

The main point Owen is going to make in it is that Japan's greatest contribution lies in foreign investment—like that of Nissan, I presume.

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Observer



Letters to the Editor

The real reward of collaboration with the Japanese

From the Principal of Capito Technical Transfer Management  
 Sir, — Christopher Lorenz (January 16) rightly warns those contemplating collaboration with Japanese to think through the longer term relationship and to beware of situations inviting failure. He panders too much, however, to the view, widely held in the West, of the Japanese as unpredictable, unreliable and even treacherous.  
 Having long worked in Japan with Japanese companies in numerous forms of collaboration, both within and without Japan (in Europe and the U.S.), I can say with confidence that Japanese companies and individuals are no more unpredictable and often a lot less unreliable or untrustworthy than their parallels in the West. Too few Westerners take the trouble to acquire the knowledge and understanding to make reasonable predictions or to understand expected or actual behaviour in Japanese. Japanese are much motivated by honour and "face" but short-term profit or loss is much less important to them. Any Japanese entering a collaboration with a Westerner would lose much face if the collaboration failed, especially where the failure is attributable to the Japanese side. On the other hand, a collaboration is only valid while all parties to it share the contributions to it as well as the rewards in a fair



Hence a one-sided transfer of know-how or products is not really a collaboration but a short-term sale. It is inconceivable that a Japanese would deliberately break up a successful collaboration.  
 Common sense dictates that one should only enter collaborations where one can do so from a position of reasonable strength. The preparation and presentation of a negotiating position is an art in itself, at which many Japanese are experts. They are highly likely to need to continue to measure their position of relative strength in a relationship by continuing to contribute to the development of the collaboration.  
 Contracts are another source of misunderstanding, the spirit being more important than the letter. If situations change, then contracts are deemed to change with them, preserving the spirit so far as possible. I cannot emphasise highly enough the need to continue to measure their position of relative strength in a relationship by continuing to contribute to the development of the collaboration.  
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As Christopher Lorenz says, a development contention is a valuable way by which a Western partner may preserve its role, building on original strengths where possible.  
 My strong advice to companies contemplating a collaboration with Japanese is not to be afraid for their backs but to be very careful over their preparation and presentation of their negotiating position, using the best expertise and advice available. In personal contacts with Japanese, be very open and trusting; Japanese will almost invariably respond to trust with trust and will take care not to be accused of breaking such trust. It is important to avoid misunderstandings and, therefore, care must be taken with full explanations at all stages.  
 The rewards of collaboration with Japanese, as many hundreds of successful participants can testify, go much deeper than the simple profit and loss of the enterprise.  
 J. E. Capito, Squar Fox Corner, Worpleston, Surrey.

Christopher Lorenz writes: The article took pains to stress that "there is nothing uniquely Japanese" about the frequent decision of the stronger partner in a joint venture/CEM/joint venture relationship. I pointed out that European companies have often complained of such tactics by their erstwhile American partners.

Leadership of the ISTC

From Mr K. Hale  
 Sir, —Mr Brian Groom's commentary on Mr William Sirs' leadership of the ISTC in the Trades Confederation (January 18) is an interesting reflection on how some commentators and the public at large perceive trade union leaders.  
 Actual experience of dealing with contemporary senior trade union officials does not always match popular perception as exemplified by simplified labels such as "left wing," "right wing," "moderate" and "militant." Contrary to what Mr Groom evidently believes, I doubt whether there are many in the steel industry — either within the ISTC or outside it — who really feel that the union's stature has been enhanced by Mr Sirs' stewardship.  
 Mr Groom lays heavy emphasis on the internal cosmetic changes introduced in the union's structure by Mr Sirs, but rather less on the ISTC's actions during the 1980 strike, for which Mr Sirs must surely carry the prime responsibility. Mr Groom fails to mention entirely the ISTC's disgraceful conduct towards the privately owned sector of the industry which was not a party to the ISTC/BSC dispute.  
 It is a matter of public record that on December 20 1979, when industrial action against BSC seemed likely, Mr Sirs gave an undertaking to the Independent Steel Employers Association in an open meeting that the private sector would not be involved. On January 17 1980, I received from Mr Sirs notice of an imme-

diata ban on loading, and 10 days' notice of indefinite strike action against the private sector, unless the dispute was settled in the meantime. The independent employers were urged to put pressure on the BSC and the Government to secure a settlement as harked a piece of industrial blackmail as it is possible to imagine.  
 Throughout this 13-week strike, the ISTC used every device imaginable to frustrate a return to normal working which the vast majority of its members employed in independent plants so demonstrably wanted. So much for the "democratisation" of the union which Mr Groom applauds.  
 The scenes on the picket lines at Hadfield made the recent events at Stockport Messenger look like a Girl Guides' outing. Mr Groom praises Mr Sirs for upholding the tradition of disciplining members who break the rules, yet his own actions in January 1980 flew in the face of the procedures agreed with the employers for many years.  
 Mr Groom may be right in thinking that the world will hear less of the ISTC if Mr Evans is made general secretary, but it will be a better union for it. Mr Sirs' liking of the public stage has done neither his union nor the industry any good.  
 Ken Hale, formerly General Secretary, Independent Steel Employers' Association, "Abercombe", Richings Way, Iwer, Bucks.

Portability of pensions

From Mr R. Jenkins  
 Sir, —Barry Riley (January 21) was right to point out that true pension portability would spell the end of final salary schemes, since the two approaches are irreconcilable.  
 The essence of a final salary scheme is the employer's guarantee to underwrite, regardless of cost, additional funding required to maintain a specified relationship between salary and pension. It is upon that guarantee that the employee relies for his pension, rather than the underlying funding.  
 Considerations of portability and injustice to early leavers have tended to focus on making the position of early leavers more comparable with that of those who stay. That is certainly the thrust of the Government's consultative document. Perhaps we should ask a more fundamental question — is it reasonable to allow employers to make the sort of guaranteed scheme, with sufficient funding to provide for an assumed future rate of inflation, but with all the fearsome administrative complexity outlined by Eric Forth?  
 Better surely, to remove the final salary guarantee and revert to true money-purchase. Richard Jenkins, 3 Oaks Park, Rough Common, Canterbury.

Preference shares

From the Deputy Chairman, of John Gooch.  
 Sir, —May I take up a point raised in the Lex column (January 24) concerning preference shares. Lex points out that Grand Metropolitan has accepted for its offer through its wholly-owned subsidiary, Grand Metropolitan Investments, of 80.8 per cent of the preference shares of Grand Metropolitan (Scotland) and concludes that only another 9.2 per cent is needed before the compulsory purchase provisions of Section 209 may be applied. What Lex does not mention is that Grand Metropolitan already owns through another subsidiary over 50 per cent of this preference share issue. If this holding were to be treated as owned by the company bidding, Grand Metropolitan would need to secure a further 20.8 per cent of the total issue before applying for compulsory purchase powers.

It would be interesting to know what course Grand Metropolitan intends to adopt. If it does succeed in applying compulsory purchase powers with a 9.9 per cent minority outstanding, the implications for minority shareholders are far-reaching and serious. All large groups can incorporate suitable subsidiaries so that an existing holding can be held in subsidiary A while subsidiary B makes a bid for the minority. It would appear that the pro-bidder must get 90 per cent of the shares he does not already own — is thus circumvented. Lawyers may disagree about the correct interpretation of the 1948 Companies Act; its spirit would certainly seem to have been lost if this kind of exercise were to become commonplace.  
 M. R. Cornwall-Jones, Winchester House, 77 London Wall, EC2.

Return of surplus

From Mr D. M. Anthony  
 Sir, —May I join the debate following the chairing of the Superannuation Funds office on the return of surplus?  
 It seems to me that what needs to be examined more closely is what is a "surplus" position. Traditionally, pension funds in the UK have measured their strength of funding in terms of liabilities based on pensionable service and pensionable salary at the date of a valuation by the actuary. To the extent that assets exceed liabilities on that date, some people have drawn the conclusion that any excess constitutes a "surplus" position. Not so in my view, since in fact all that has taken place is a snapshot of the scheme's funding on a basis which assumes the scheme has been discontinued.  
 But pension schemes are, for the most part, on-going concerns and should be regarded as such. A view, endorsed in 1983 by the Accounting Standards Committee, is that, therefore, the proper view to take of funding, and therefore whether surplus exists or not, is the relationship between assets and liabilities expressed in terms of pensionable service

Coping with the shock of the new in architecture

From Mr M. Manser.  
 Sir, —Of the many people who wrote to you about my article "Conservation has gone far too far" on January 11, none questioned the proposition. Most, however, attributed the problem to a general dislike of the new architecture.  
 There are probably four reasons for this. First, I do not deny that, as in every other field of endeavour, architects are a varied bunch. Like lawyers, accountants and human beings generally, those who excel are in a minority.  
 Second, bearing in mind that nothing an architect designs is built unless someone likes it enough to pay the bill, some part of the responsibility for quality in architecture rests with those with patronage. An architect should be chosen by interview and examination of his previous work — a process just not available in the selection of other consultants. Like lawyers or accountants, but it seldom happens that way.  
 There are three prime movers in the construction of a building. The owner, the architect

and the constructor. If it is to be well designed the owner and the architect have to work in close harmony and if it is to be well constructed the architect and the builder have to work in close harmony. The owner has to contribute. There has never been a fine piece of architecture without a deeply interested and committed owner.  
 The third reason is what has been called the "Shock of the New." Seldom in history has contemporary architecture been much admired. Carlton House Terrace was deeply disliked; so was much of the work of Soane and the brothers Adam. In several books Jane Austen refers pejoratively to "people who live in plain white modern houses." Recognition comes later.  
 Buildings which were regarded as monstrous, modernistic buildings of the thirties — Odeon Style — are now much admired. In the fulness of time so will much of our post-war building. That a building is unfamiliar and new may not mean it is bad.  
 The final reason is that we

have the most detailed planning control of architectural design in the world. Everything built in the last 45 years has been through the aesthetic sieve. The results are duller than those of the previous 45 years. It has been an expensive and worthwhile cause of delay in the redevelopment process. It can also sometimes become deeply undemocratic in its administration because decisions on the appearance of buildings are not taken by the owner or his chosen architect but by local authority environmental design officers. Human nature being what it is, they work on a subjective basis of what they like; what they prefer, without culpability for practicality, cost or delay. Their preferences are achieved by a kind of benign blackmail — because non-compliance means an expensive appeal to the Secretary of State which building owners can seldom afford in time or money. Architects do not usually complain or object because they have to negotiate with the same environmental design officers the next time around.

UK Breakfast Television

The new gospel at TV-am

By Raymond Snoddy

LORD BERNSTEIN, the creator of Granada Television, sipped a large whisky and gave Timothy Aitken, chief executive of TV-am, three blunt predictions about the future of Britain's breakfast television company.  
 "You will have to make a write-off—sooner or later you will have to put the past behind you. You will have to go yourself to the advertisers (by-passing the agencies) and don't think you can do it in less than 18 months."  
 The 38-year-old Mr Aitken consulted the former chairman of Granada, who celebrated his 85th birthday yesterday, just after taking over Europe's only national commercial breakfast TV company last April.  
 "I knew a great deal about the communications business, certainly knew something about costs in Fleet Street," says the grandson of Lord Beaverbrook. "But I knew nothing about television."  
 Nine months and many crises and headlines later as TV-am prepares to celebrate its first anniversary on the air tomorrow Lord Bernstein's warnings have turned out to be "the gospel."  
 That, the write-off. In November TV-am wrote off £4.8m in losses as part of a £5.5m refinancing that brought in Fleet Holdings and Kerry Packer's Consolidated Press with much needed new operating capital to join original shareholders such as Barclays Merchant Bank and Prudential Assurance.  
 Second, advertising. Last Monday, frustration with major advertising agencies and the continuing Institute of Practitioners in Advertising-Equity dispute, spurred Mr Aitken and editor-in-chief Greg Dyke to begin a personal campaign to sell TV-am as an advertising medium directly to top companies.  
 The presentation to chief executives and finance officers points out that TV-am had 6.6m viewers in the week prior to the Christmas holidays, that 51 per cent of its audience is under 24 and that it includes many housewives under 24.  
 The campaign is a sign of TV-am's urgent need for better revenues and its belief that most advertising agencies have not responded to TV-am improved ratings.  
 Mr Aitken argues that they have now produced the audience



Before the knives came out: TV-am stars at the launch a year ago. Of the original team only David Frost (third from left) is currently a regular presenter.

with a peak audience of 1.4m equalling the BBC peak. Timothy Aitken believes the TV-am peak could pass the 2m mark later this year and that revenues of £14m-£15m are possible. In year three £15m, he believes, is definitely on the cards with "some serious numbers—£20m-£25m" in year four and return on capital.  
 The crisis at TV-am has, however, eclipsed a significant change in Britain's early morning broadcasting habits. Gradually the audience is building for the soft-boiled, pullover clad magazine programme that comes equally from the transmitters of the BBC and the IBA at breakfast time.  
 The latest figures show that over seven days 6.9m people watched TV-am for at least eight minutes in a quarter-hour period. The total for the BBC's Breakfast Time over the five days it broadcasts was 5.2m.  
 Mr Ron Neil, founding editor of the BBC's Breakfast Time, believes that on slightly less strict criteria 8m to 9m watch his programme some time in the week.  
 "That seems to me to justify the existence of a television service in the morning," he says. Round out the figures a bit, he argues, and Breakfast Time costs £1 per viewer a year.  
 This year Mr Neil hopes to get permission to extend his programme from 8.15 to 9.30 to match TV-am and gradually introduce perhaps two or three more serious items each day.  
 Greg Dyke, like Mr Neil, has plans to take TV-am ever so gradually up-market to try to achieve on weekdays what David Frost has managed on Sundays — reach the male audience.  
 Mr Dyke is in serious talks with an independent producer to start a daily business news slot.  
 As it enters its second year, TV-am has not yet entirely put its lurid past totally behind it. A book due out in April has the title Treachery.  
 Two years ago Mr Peter Jay, the founding chairman, had no doubts. Newspapers were obsolete and breakfast television was one of the least risky propositions ever undertaken, he told the Financial Times.  
 It may take another two years to prove whether Mr Jay was right and TV-am can flourish as a stand-alone operation.

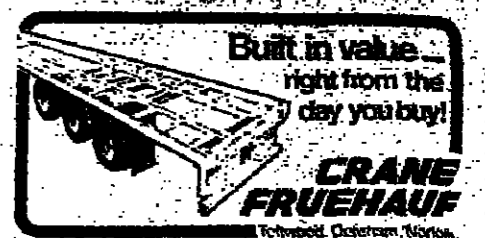
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John Wyles in Brussels examines a conspiracy theory

## Surprise milk bill confuses UK rebate row

AT LEAST two obstacles obstruct early payment of a \$600m rebate on Britain's 1983 EEC budget contributions, but the weekend's storm in a milk churn over the allegedly illegal administration of the UK dairy industry is not one of them.

Sig Carlo Facini, the European Commission's financial controller, was, according to his colleagues, blighted but unbowed yesterday after leakage of his recommendation that Britain should be forced to repay Ecu 755.6m (\$606.4m) of EEC money, which, he alleges, improperly supported UK dairy production in 1978 and 1979.

With Mrs Margaret Thatcher, the British Prime Minister, still struggling to prise out of the Community an Ecu 750m rebate agreed at the Stuttgart summit last June, the similarity of the amounts inflamed some suspicions that somebody somewhere was determined to make sure that the rebate was never paid.

No such doubts can be attached to the Commission, which points out that it is the European Parliament that is blocking payment of the rebate until at least March 31. If it is not paid by then, everyone ex-

pects Mrs Thatcher to deduct the money from Britain's monthly contributions to the EEC. In any case, all member states have to agree the necessary regulations before the parliament can decide, and they have not yet done so.

As for Sig Facini's views on the need to reclaim the dim and distant milk payments, they are disputed both by the Commission's legal services and its agricultural directorate. The Commission itself will take a stand either tomorrow or next Wednesday and as Mr Ivor Richard, the Commissioner for Social Affairs, has already publicly predicted, it will not be the same as Sig Facini's.

As financial controller, Sig Facini has an independent responsibility for ensuring that all payments conform with EEC regulations. Since the Commission is somewhat behind on its work of certifying and "clearing" the administration of past budgets, Sig Facini's recommendations for 1978 and 1979 have only just been completed.

Having concluded that the UK Milk Marketing Board's pricing policies were in breach of regulations in those years, he has had no option

but to urge recovery of all payments made to the UK's dairy sector in those two years.

He has made similar "take-back" recommendations affecting other member states in past years and has subsequently been overruled by the Commission. He will not be surprised to suffer the same fate this time.

One official said yesterday that history was littered with cases of governments pocketing the EEC's cash while technically breaching regulations.

Nevertheless, the Commission has concluded that the Milk Marketing Board's policies of selling liquid milk to dairies at a lower price if the milk is destined for butter production are in breach of regulations adopted in 1979.

Although the UK body agreed to mend its ways at the end of last year, it has not done so, and the Commission started a case against Britain at the European Court last week.

The effect has been to encourage disposal of British butter on the British market rather than in sales for storage. That has helped the



Mr Ivor Richard

British Government's cash flow, since the Treasury has to finance intervention purchases, which are only subsequently reimbursed by the EEC.

Brendan Keenan adds from Dublin: The Irish Dairy Board has accused Mr Richard of "jingoistic partiality" because of his comments on the dispute over British milk subsidies. In a message to the Commission President, M Gaston Thorn,

the Irish board said Mr Richard had prejudged the issue.

The Irish claim that the UK milk regulations are costing them millions of pounds each year and have virtually destroyed the market for Irish dairy products in Britain. The board is taking legal action against the UK on the issue.

Richard Mooney writes from London: The British Ministry of Agriculture and Milk Marketing Board were continuing to keep low profiles on the issue yesterday.

"The possibility of disallowing the expenditure doesn't arise," said a ministry official. Only part of the total contravened EEC rules, but the Brussels accountants seemed to be implying that the rest was "guilty by association." He would not estimate what proportion of the total 1978-79 payment was illegal.

The board denied that its two-tier pricing policy for bulk and packet butter amounted to cross-subsidy. The price differential reflected the greater costs involved in producing packet butter, a board spokesman said.

## THE LEX COLUMN

# A ritual rally in Hong Kong

Following an oriental tradition which some believe to date back as far as 1983, the Hong Kong stock market has been moving up sharply ahead of the Chinese New Year. Yesterday's 42.26 point rise takes the Hang Seng index to a six-month peak of 1097.63 and if it can manage another 8 points it will be at a level last seen in September 1982, when Mrs Thatcher's visit to Peking officially inaugurated the 1987 bear market.

The immediate cause of yesterday's surge was the 1-point cut in local best lending rate at the week-end. Prime is now 11% per cent down from 16 per cent four months ago, and linking the Hong Kong dollar to the U.S. dollar has been an unflinching success - to the extent that some of the money now coming into equities is coming from the dollar currency hedges established during last year's panic.

The high volume of Hong Kong trading is fueling hopes that the market can keep going. Yesterday's turnover of HK\$500m was the equivalent of an entire week in the troughs of 1982-83.

The surge is partly based on the economy, with manufacturing turning in a record export performance and even the property sector showing signs of recovery. But the rally owes most of its vigour to the belief that Britain and China will resolve the 1997 uncertainty sooner rather than later. Betting now favours a statement in May or June, paving the way to Chinese sovereignty with a promise of autonomy.

The punters do not much mind if it is going to work, but it will be poor tribute to the public relations of London and Peking if the stock market is not given something to chew on.

grow under its feet while Britain's Monopolies Commission deliberates on the matter. Less than a month after making a recommended offer for Candecoa, Trafalgar is busy negotiating the purchase - or more likely the gift - of Scott Lithgow, the troubled Scottish shipyard.

It is not the first time that Trafalgar has strayed into these choppy political waters. The company retains an option to buy the RGC offshore construction yard from British Steel. Scott Lithgow, however, represents a risk of a different order and Trafalgar will presumably drive a hard bargain on closure costs, development aid and inter-group debt (not to mention the Britoil contracts).

The immediate effect on Trafalgar's balance sheet would be minimal. Scott Lithgow's assets are heavily written down and, even on a generous assumption, should represent less than 5 per cent of the group's net worth. Yet, taken together with the Candecoa and RGC transactions, the deal would mark a considerable strategic shift. Broadly, Trafalgar seems to be applying the cash generated through the gradual liquidation of its commercial property portfolio to the accumulation of unfashionable energy assets. Scott Lithgow would enable the group to construct an entire offshore platform, dovetailing neatly with Trafalgar's existing steel and engineering interests. But, even given that industrial logic, it is a bold move.

has doubled in the last four months - it seems that Harrison's is in with a chance of selling a number of its vestigial plantation interests to its 30 per cent Malaysian associate, Harrison's Malaysian Plantations.

The aggregate market valuation of the eight London-listed companies involved is about £81m, after yesterday's run-up, a level at which Harrison's interest should be worth well over £20m. Cross-holdings between some of these companies keep the precise amount obscure, but Harrison's share of Castlefield is an unaccounted £12.75m in itself.

The market drew its tentative conclusion yesterday in adding £16m to Harrison's own capitalisation, at 82.5p, the company is currently worth £514m. There are a number of reasons why this figure is not to be taken too literally. It relies on 10 triangular negotiations - and if they all go through, Harrison may yet find itself subscribing for shares to maintain its stake in the enlarged Malaysian company.

**Hanson Trust**

Hanson Trust's disclosure that it is now the proud owner of 4.58 per cent of Powell Duffryn has panicked to one of the City of London's favourite occupations - guessing what Lord Hanson will do next. It may be of course, that the company felt obliged to disclose its interest once Powell had unearthed the true identity of a rapidly accumulating nominee holding, and the market, hard on its heels, had pushed up Powell's share price in early dealings. But, on a dull day in the equity market, that looked altogether too literal an interpretation. The favoured alternative was that Hanson, in an attempt to shake out loose holders of London Brick shares, was intimating that it might abandon one target and go for another. You pays your money and you takes your choice.

## CGT calls for protest on Paris policies

By David Hourigan in Paris

FRANCE'S Communist-led CGT union has issued its strongest condemnation so far of the Government's proposals for restructuring ailing sectors of French industry and called for "mass" trades union action to get them changed.

M Henri Krasucki, the CGT leader, said in a broadcast statement that "unbelievable attacks" were being made on workers' rights and "exorbitant privileges" granted to employers.

His comments covered the Government's plans for creating new "industrial reconversion zones" where unions fear that existing labour and social legislation will be relaxed to encourage new investment.

He accused the "employers" of trying to turn the clock back decades in terms of social policy and of pursuing goals that would accelerate industrial decline while increasing unemployment. In current Communist Party jargon, the term "employer" has become a synonym for the Government.

M Krasucki said his union would not accept today what it had rejected in the past from previous administrations and employers' organisations. The time had come, he said, "to sound the alarm... and for mass trade union action, well timed and led."

M Krasucki clearly intended that his remarks should influence the forthcoming round of ministerial meetings to discuss the future of the steel and coal sectors.

They were also timed to have an impact on yesterday's ministerial meeting called to discuss the proposed "reconversions" or "free zones."

The Government, reacting to trade union hostility to press leaks, indicated yesterday that there would be no going back on past social legislation in the new zones.

The Government's intention is that the zones should be established in areas such as Lorraine, the Vosges, Ardennes, Montluçon, Dunkerque and the Nord-Pas de Calais, which are suffering the worst redundancies.

Small and medium-sized companies would be encouraged to set up new activities through fresh financial incentives. The Government, which sees measures as part of a new offensive to create more jobs, intends that the zones should be cooperative ventures between employers, the regional authorities and the unions.

Other ideas, such as the two-year retraining programmes proposed for the redundant in M Pierre Mauroy, the Prime Minister, would also be tried in the zones.

## EEC asks Japan to suspend duties on manufactured imports

BY JUREK MARTIN IN TOKYO

THE EEC has proposed that Japan "suspend" import duties on manufactured goods for an indefinite period to reduce its growing trade surplus with the Community.

The suggestion was in a letter sent by Herr Wilhelm Haferkampf, the EEC vice-president, to Mr Hikosaburo Onogaki, the Minister of International Trade and Industry.

It is expected to form a basis for talks in Florida this week when the trade ministers of Japan, the EEC, the U.S. and Canada meet in their next round of regularly scheduled talks.

Herr Haferkampf's letter also suggests three other ways in which Japan could increase imports, all raised at previous meetings. They are that:

- Japan advance by a full three years, and not, as currently planned, by one or two years, scheduled tariff cuts agreed in the Tokyo Round trade negotiations concluded in 1979. Japan is phasing in tariff cuts on a yearly basis up to January 1 1987, when the cuts will be complete.
- It sets specific targets for higher imports; and,
- It reviews its national distribution system, often said to be a barrier to foreign goods.

EEC officials in Tokyo noted that the last two points were alluded to by the Japanese Prime Minister, Mr Yasuhiro Nakasone, when the most recent Japanese measures designed to stimulate imports were announced last October 25.

No immediate, official Japanese reaction was available. It is considered likely, however, that Japan will produce another economic "package" in the late spring, drawing together the disparate strands of commercial and financial modifications it is known to be considering.

Herr Haferkampf is understood to have pointed out that precedent does exist for temporarily suspending import duties. He cited the case of West Germany, which in the 1960s had recourse several times to such action when its trade surplus was assuming embarrassing proportions.

Last year, according to Japanese

## Cheysson to visit Libya for Chad talks

By David Marsh in Paris

FRANCE last night launched a diplomatic offensive to secure peace in Chad with the announcement that M Claude Cheysson, the Foreign Minister, will hold talks in Libya at the end of this week.

The visit to Tripoli, which supports anti-government rebels who shot down a French fighter in Chad and killed its pilot last week, will form the delicate highlight of a three-nation trip starting tomorrow, which will also take M Cheysson to Ndjamena, the Chad capital, and Addis Ababa.

M Cheysson's dispatch to Africa follows Friday's French action in extending northwards by more than 100 km the "peace demarcation line" running from east to west across the strife-torn central African country.

French troops and airborne forces were yesterday patrolling the new buffer zone, which divides the country between the relatively populous Government-held south and the rebel-occupied desert regions of the north.

But the Ministry of Defence made clear that the main "front line" of French troops - who have been in Chad since last August to support the Ndjamena Government - remained the previous demarcation strip linking the townships of Salal and Arada.

M Cheysson's African trip is being labelled by the Paris Government as an extension of diplomatic efforts started last summer to bring a pan-African peace solution to Chad. The Addis Ababa Government currently holds the presidency of the Organisation of African Unity.

## Telecom pact agreed by Japan, U.S.

Continued from Page 1

more advanced equipment and also because of the spin-offs they see from R and D involvement in a company which is one of the most advanced in the world in this field.

The agreement appears to have fallen short of U.S. hopes since the Japanese have not agreed to remove the prohibition on the sale of U.S. satellites to Japan, which wants to develop its own.

Further talks to try and tackle other trade issues are planned, including a visit to Washington shortly by Mr Shinjiro Yamamura, the Japanese Agriculture Minister, which is expected to focus on longstanding U.S. complaints about the quotas Japan imposes on U.S. beef and citrus exports.

During Mr Abe's visit which has included sessions with President Ronald Reagan, Mr George Shultz, the Secretary of State, and Mr Caspar Weinberger, the Defence Secretary, Japanese officials have been emphasising their Government's desire to make progress on trade issues at a time when the forthcoming presidential election is contributing to growing calls from several industries for greater protection in the U.S. The U.S. is also concerned that the relationship with Japan should not become a "political football" in the run up to the election.

## Trafalgar House may take over shipyard

BY IAN HARGREAVES AND PETER RIDDELL IN LONDON

TRAFALGAR HOUSE, the building, property and shipping group, seems close to clinching a cost-free takeover of Scott Lithgow, the Lower Clyde shipyard which faces closure following the cancellation of an £68m drilling rig order for Britoil.

Mrs Margaret Thatcher, the Prime Minister, and Mr Norman Tebbit, Trade and Industry Secretary, have already agreed in principle that the terms of the deal should be sweetened with funds from the regional aid budget.

Trafalgar confirmed that it had been approached by British Shipbuilders, Scott Lithgow's parent company, about a possible deal.

"We have investigated the possibility of our taking over the yard and completing the Britoil contract. We are currently engaged in talks," the company said.

Although no further details were available, British Shipbuilders and Trafalgar House should be ready to put forward a firm, joint proposal to Government within 10 days.

The terms envisage a free transfer of the yard's assets, which BS considers to have little more than scrap value. It is possible that the deal will take the form of a lease rather than an outright sale.

Although ministers said in a debate on Scott Lithgow in Parliament last week they would not intervene financially, they have changed their minds in the light of

## Belgrade plans fallback if IMF talks fail

By Aleksandar Lebl in Belgrade and Anthony Robinson in London

AS YUGOSLAVIA prepares for next week's third and probably final round of negotiations with the International Monetary Fund (IMF) for a new standby credit, Mr Zvonko Dragan, the Deputy Prime Minister, has admitted the existence of a fallback plan to be imposed if the IMF talks fail.

Speaking on Radio Belgrade, Mr Dragan said this so-called "black variant" would involve a sharp drop in production income and consumption, attempts to switch trade away from developed industrial countries, and other stringent economy measures.

The next round of IMF talks is expected to start in Belgrade on February 8. The two sides will attempt to reconcile IMF proposals for higher interest rates, depreciation of the dinar, and changes to foreign exchange and credit policies, with Yugoslav fears about the political consequences.

Mr Dragan, who will meet Mr Jacques de Larosiere, IMF managing director, in Washington today, is also paving the way for the visit of Mr Mika Spiljak, the Yugoslav president.

Mr Spiljak arrives in Washington today on the first state visit since the late Marshal Tito's visit six years ago.

He will be accompanied by Mr Lazar Mojsov, the foreign minister, and will meet President Ronald Reagan and other top officials

## Trafalgar House

Trafalgar House may or may not be planning to relaunch a bid for P & O but it is not letting the grass

## Harrisons

The rolling process of Malaysiaisation appears once again to be working for the benefit of shareholders in Harrisons & Crossfield. At a moment when commodity prices have been moving strongly in the planters' favour - palm oil

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### World Weather

City	F	C	City	F	C
Alexandria	57	14	London	46	8
Amsterdam	52	11	Madrid	50	10
Ankara	55	13	Moscow	43	6
Bahia	76	25	Osaka	60	16
Bangkok	82	28	Paris	45	7
Bombay	81	27	Rome	47	11
Buenos Aires	63	18	Seoul	42	6
Calcutta	84	29	Singapore	80	27
Cairo	61	17	Sydney	66	19
Cardiff	50	10	Taipei	58	15
Cebu	83	28	Tokyo	52	11
Colon	81	27	Washington	41	5
Dacca	80	27	Zurich	40	4
Dhaka	80	27			

Readings at mid-day yesterday.

C - Cloudy, D - Drizzle, F - Fair, H - Fog, M - Mist, R - Rain, S - Sun, Sh - Shallow, Se - Snow, T - Thunder

## Armcro insurance sale

Continued from Page 1

stemmed from a strategic decision "to remove Armcro from the insurance business." This decision resulted from changes in Armcro's tax status in the wake of massive write-offs on its steelmaking and manufacturing facilities which Mr Holiday said meant that Armcro "is no longer able to offset underwriting losses with tax credits."

As a result of Armcro's decision to sell the insurance business, Mr Holiday also announced that Mr H. T. (Ted) Cohn, group vice-president and chief executive of Armcro financial services group, and Mr William Smego-Turner, president of the

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## Boeing halts downturn with \$355m for year

BY WILLIAM HALL IN NEW YORK

BOEING, the giant U.S. aerospace group, pulled out of its two-year profit decline in 1983 and has posted a 21.5 per cent rise in 1983 net income to \$355m.

Mr T. A. Wilson, Boeing's chairman, says that the increase in earnings was attributable to increased sales, a lower level of research, development and engineering expenses on new jet transports, and continued favourable performance on U.S. government projects. The principal offsetting factors were the "extremely competitive market environment" and a higher effective tax rate.

Net income in the fourth quarter totalled \$89m, against \$91m a year before. For the full year, Boeing earned \$3.07 per share against \$3.02

Boeing says that 1983 saw a "modest recovery in commercial jet transport orders and an increase in military business which for the fourth consecutive year recorded higher sales, earnings and backlog."

Mr Wilson said that a sustained period of airline growth and profitability will be required before orders increase substantially over the 1983 level. The market remains very competitive, which has resulted in pressure on prices and the requirement for trading in older aircraft in return for new ones, delays in taking delivery, and the substitution of smaller jet transports for the larger ones previously ordered.

Boeing sales for the full year rose 22 per cent to \$11.1bn.

Last year Boeing received 151 new orders for jet transports valued at \$3.4bn against 110 orders valued at \$3bn in 1982. The higher dollar amount reflects the significantly higher number of 747, 757 and 767 orders in 1983.

Sales to the U.S. Government totalled \$3.5bn, 9 per cent higher than the previous year. The principal contributors were the B-1B bomber, the E-3 Airborne Warning and Control System (AWACS) and the E-4 airborne command post.

At the end of 1983 Boeing had orders totalling \$18bn, some \$1bn lower than the year before. Of the total 1983 backlog, \$12.8bn, or 71 per cent, was commercial and the remainder government business.

## Continued operations rise 24% at Time

By Paul Taylor in New York

TIME, the U.S. publishing, information and entertainment group which recently spun off its forest products division, Temple-Inland, as a separate company, yesterday reported a 24 per cent increase in net earnings from continuing operations in the fourth quarter.

Time said its fourth quarter net earnings from continuing operations increased to \$44.53m or 70 cents a share from \$35.88m or 57 cents a share in the 1982 final quarter.

The 1983 quarter results are before \$14.7m in net earnings from the divested forest products division and a net loss of \$4.3m from discontinued operations. After these items Time's final net earnings for the 1983 quarter were \$54.93m or 90 cents a share compared to a final net of \$43.2m or 68 cents a share in the 1982 period. This included net earnings of \$18.62m from Temple-Inland and a \$9.49m net loss from discontinued operations. Revenues increased to \$763.1m from \$668.9m.

For the full year Time reported net income from continuing operations of \$143.2m or \$2.25 a share compared with \$122.88m or \$1.97 a share in 1982.

After net income of \$51.7m from divested operations and a loss of \$26m from discontinued operations, Time reported a final net of \$108.9m or \$2.65 a share compared with \$153.1m or \$2.45 a share in 1982 after net income of \$53m and a \$22.9m loss from discontinued operations. Revenues increased from \$237.2bn, to \$272.7m.

Time said the results of Temple-Inland, which was divested as a separate company from January 1, have been reclassified for reporting purposes as a discontinued operation as of December 31, 1983. Discontinued operations also include losses incurred in connection with Time's subscription television business, which was closed down last year, and an adjustment to the provision for the shutdown of Time-Life Films, which was closed down in 1981.

## Revised result for Kaiser Aluminum

By Our Financial Staff

KAISER Aluminum, the third largest U.S. aluminum producer, has revised its profits figures for the fourth-quarter and full year of 1983 to reflect a provision for a \$4.2m after-tax loss on standby letters of credit.

The letters were issued on behalf of a third party but for the account of Kaiser International, a wholly owned subsidiary. The revised figures for fourth-quarter net earnings is \$42m or 97 cents a share against a loss of \$123.4m in the same period of 1982. For the year, Kaiser had a net loss of \$74.9m, against \$115m loss in 1982.

NEW 740 GLE MODEL CLOSES IMPORTANT GAP

## Volvo takes on competitors

BY KEVIN DONE, NORDIC CORRESPONDENT, IN GOTHENBURG

VOLVO, the leading automobile producer in northern Europe, yesterday launched itself into a new segment of the world high performance car market, further intensifying the competition with its chief rivals BMW, Daimler-Benz and Audi of West Germany.

It is aiming to take a growing share of the world market for sports, high performance saloons, which it estimates at around 1.1m units this year. The new 740 GLE model closes an important gap in the Volvo range.

The Swedish industrial concern, the largest in the Nordic region, is enjoying a dramatic surge in the fortunes of its car operations, which are now generating the lion's share of group profits, and are carrying the heavily loss-making energy operations.

The volume of Volvo car sales climbed by 15 per cent last year to 365,000, compared with 316,500 in 1982. At the same time the turnover of the group's car operations jumped by 45 per cent to SKr 28.2bn (\$3.23bn) helped by favourable exchange rates, higher volume output,

and a shift to higher value models. In the U.S. its biggest single market, Volvo car sales increased by 20 per cent to 87,700, in Sweden its second largest market sales rose by 7.8

The new model has been launched into one of the most lucrative and resilient sectors of the world car market and will compete with such rivals as the Mercedes

Enskilda Securities has completed an international placement of 300,000 shares in Volvo, for a total of SKr 130m. The shares were originally issued to Mr Frederic Hamilton in part consideration for Volvo's acquisition of a stake in Hamilton Brothers Petroleum Corporation. The international placement follows a series of occasions in which Euromarket placement channels have been used for international share issues. Enskilda Securities was formed in 1982 as the London-based investment banking arm of Skandinaviska Enskilda Banken.

per cent to 62,012, while car sales in the UK increased by 18 per cent to 61,200.

After several difficult years in the late 1970s Volvo has emerged as one of the world's most profitable car producers. Its car division generated 73 per cent of group profits in 1982 from 24 per cent of group turnover, and last year cars were responsible for an estimated 80-90 per cent of group profits of SKr 3.85bn.

Benzo 190, the BMW 5-series, the Audi 100, the Saab 900 turbo and the top of the range Ford Granada. It will reach dealers in Sweden in March and will be introduced in most other continental European markets during the spring. Volvo is aiming to produce 10,000 units of the new model by the summer. It will be launched in the UK and the U.S. during the autumn.

tion engine developing 129 hp. Outwardly it is a development of the exclusive top of the range 760 series, launched in 1982, from which it has taken the body and major chassis components, but the engine and transmission are derived from Volvo's volume 240 series.

Mr Dan Werbin, deputy managing director of Volvo Car, said yesterday that the group intended to carry on production of the successful 10-year-old 240 series through the rest of the 1980s. It is expected that the 240-series, Volvo's main volume car, will be replaced gradually, however, with the introduction of cheaper versions of the 740.

Volvo is currently devoting SKr 1.3bn to SKr 1.5bn a year to the development of new car models while at the same time radically upgrading its model range. A new model in its small car range, the Volvo 340/360 produced in Holland, is expected within the next two years. Volvo is one of the world's most export-dependent car producers, with 80 per cent of sales now coming from outside its home markets of Sweden and the Netherlands.

## Texaco to sell Getty Oil outlets

By Our New York Staff

TEXACO, the U.S. oil group, plans to dispose of nearly half of Getty Oil's 4,490 service stations in an effort to clear one of the main antitrust hurdles in its \$10.1bn takeover of Getty.

Texaco said on Sunday that it had agreed to transfer substantially all of Getty Oil's marketing activities in the north-eastern and middle Atlantic regions of the U.S. to Power Test Corporation, a small independent petroleum marketing company.

The sale covers 600 of the 970 stations owned or leased by Getty in the region. In addition, Power Test has agreed to assume contractual obligations to supply another 1,300 additional Getty franchised stations. For the year ended December 31, 1983, the Getty operation to be transferred to Power Test had revenues of \$1.4bn.

The cost of the deal is around \$90m and will be consumed only when Texaco has received clearance to take over Getty Oil.

Texaco has agreed to assist in supplying Power Test's petroleum product requirements for the acquired properties by selling up to 22m barrels a year of petrol and 11m barrels a year of middle distillate petroleum products for a three-year period after the sale.

Phillips Petroleum, the Oklahoma-based integrated oil and gas company, boosted fourth-quarter net profits from \$155m or \$1.01 a share to \$207m or \$1.61. However, the 1983 figures include a non-recurring gain of \$36m, against a \$63m loss in 1982, leaving the underlying performance virtually unchanged.

For the year, Phillips lifted net earnings from \$648m or \$4.23 a share to \$721m or \$4.71. Revenues slipped from \$15.9bn to \$15.5bn, with \$4.15bn (\$4.06bn) coming in the latest quarter.

Standard Oil Company (Indiana), the Illinois-based integrated oil company, plans to cut its workforce by about 3,000 or 5 per cent this year. The cuts would come through natural wastage and early retirement.

The company said the cuts were part of a company-wide cost reduction drive.

## United Technologies affected by gains

BY TERRY DODSWORTH IN NEW YORK

UNITED Technologies, the broadly based U.S. military equipment and technology group, reported a 4.8 per cent fall in net profits last year to \$533.7m, or \$8.74 a share, to \$509.2m, or \$7.84 a share.

The company added, however, that the results were affected by two extraordinary non-recurring gains in 1982 worth a total of \$107m. Adjusted for the impact of these figures, net profits rose by 19 per cent from \$428.9m in 1982.

Mr Harry Gray, chairman and chief executive, said the group's performance had been achieved in the face of lower aircraft engine shipments and unfavourable foreign exchange rates. It attested to the "stability and the balance we have achieved through diversification over the past decade."

In the current year, Mr Gray expected the military aircraft engine business to decline, but he said that this should be more than offset by recovery in North American commercial and industrial businesses, while the sale of helicopters, electronic systems and other military equipment "looked promising."

Sales last year amounted to \$14.7bn against \$13.8bn. In the fourth quarter revenue rose by 10 per cent from \$3.5bn to \$3.9bn, while earnings rose by 19 per cent

to \$687.7m, leaving the year's total down at \$3.42bn from \$3.55bn.

The company expects to show substantially increased earnings in 1984 on the back of a strong recovery in the U.S. economy and the strengthening of its basic markets.

Earnings before rationalisation adjustments and disposals in the fourth quarter were up from \$5.4m to \$19.6m.

The loss in the third quarter arose from \$28m provisions caused by the extensive reorganisation of the group's international operations.

## Owens-Illinois stages \$70m recovery

BY OUR FINANCIAL STAFF

A TURNROUND of more than \$70m in the fourth quarter enabled Owens-Illinois, the largest U.S. glass container maker, to recoup some lost ground and finish 1983 with net earnings of \$99.1m, or \$2.45 a share. This compares with \$90.7m or \$2.39 for the previous year, when there was a \$51m gain from an accounting change.

In the last three months of 1983 there was a recovery to a net profit of \$38.7m, or \$1.39, against a \$5.6m loss in the third quarter and a \$31.8m loss a year earlier. Sales for the quarter fell to \$814.8m from

\$887.7m, leaving the year's total down at \$3.42bn from \$3.55bn.

The company expects to show substantially increased earnings in 1984 on the back of a strong recovery in the U.S. economy and the strengthening of its basic markets.

Earnings before rationalisation adjustments and disposals in the fourth quarter were up from \$5.4m to \$19.6m.

The loss in the third quarter arose from \$28m provisions caused by the extensive reorganisation of the group's international operations.

## American Brands ahead

BY OUR NEW YORK STAFF

AMERICAN Brands, the fourth largest U.S. tobacco company, and the owner of Gallaher in the UK, reported record net profits of \$390m last year, despite a much higher tax charge and the unfavourable effects of the slide in the pound.

Earnings were up by 2.4 per cent from \$381m, or \$8.55 a share, to \$390m, or \$8.78 a share, while sales rose by 9 per cent from \$6.5bn to \$7.1bn. The tax charge, however, was up by a little over 18 per cent to \$340m and the company added that

if the exchange rate for sterling had remained constant, net income would have been up by 6 per cent, the equivalent of an additional \$14m, or 38 cents a share.

In the fourth quarter, earnings rose to \$104m, or \$1.81 per share, against \$103.8m, or \$1.80 a share in 1982, despite a 20 per cent increase in the tax charge.

Mr Edward Whittemore, chairman, said that Gallaher, which makes Benson and Hedges and Silk Cut brands, had a "superb year."

REFINING AND DISTRIBUTION LOSSES HALVED

## Elf stays at top of French profits league

BY DAVID MARSH IN PARIS

ELF AQUITAINE, the French state-controlled oil and chemicals group, yesterday said net consolidated profits last year were similar to the FFr 3.5bn (\$406m) registered for 1982, maintaining the company's position as the most profitable in France.

Michel Pecqueur, Elf's new chairman, who took over from M. Albin Chalandon last June, said the results marked a clear increase in Elf's profitability, as the 1982 surplus was boosted by exceptional receipts of FFr 1.8bn in repayment of debts from Iran.

Last year's profit was registered on group turnover of FFr 155bn, up sharply from FFr 115bn in 1982. The rise resulted mainly from the incorporation in mid-year of large slices of chemical operations formerly belonging to France's nationalised Pechiney group. Those were transferred under the Government's chemical industry reorganisation.

M. Pecqueur announced last year's "positive" results after weeks of controversy over the group's role in France's "oil tanker" affair. During the late 1970s Elf transferred abroad FFr 500m to finance oil prospecting using an electronic method drawn up by foreign "investors" which later turned out to be

based on a fraud. The new chairman, who took over from M. Chalandon was dismissed by the Government in a row over the chemical industry restructuring, declared that the prowess of the group should be judged on the basis of its overall financial results and exploration activities rather than on a "limited" event which, "although painful, belongs in the past."

He made clear that last year's underlying profits improvement was due chiefly to a fall of roughly half in losses incurred by its refining and distribution business.

Showing the financial improvement, cash flow last year (including base chemicals, but after deducting exploration charges) rose to FFr 14bn from FFr 11.3bn in 1982. Investments were maintained at around FFr 15bn. M. Pecqueur cited as an example of continuing international confidence in the group - in spite of the "tanker" affair - the results of the latest round of Norwegian North Sea oil block allocations. Announced last Friday they gave Elf an 8 per cent exploration share in the "Diamond" offshore block. The only other non-Norwegian companies given allocations were Esso and West Germany's Deminor.

The "economic loss" in the refining and distribution area, based on

comparisons of unchanged stocks, fell from more than FFr 4bn in 1982 to around FFr 2.2bn last year, M. Pecqueur said.

Elf lost around FFr 310m in refining last year as a result of the insufficient application by the Government of a price-fixing formula intended to pass on as higher petrol prices the effect of the surge in the dollar.

The Government had announced that the formula would be modified to allow a full link between the rate of the dollar and petrol prices as from February, M. Pecqueur said. But that alone would clearly not be enough to stem losses in this sector.

Another loss-making area was the group's basic chemicals activities, swollen by the takeover of the Pechiney operations. Elf, which is now France's biggest chemical company, has set up a subsidiary, Atchem, to group those activities, for which the Government has set a target for return to profit of 1985-88.

After the drawing up of a restructuring plan that will entail job cuts of 2,300 over the next few years, M. Pecqueur said the profits target seemed realistic.

After the absorption of chemicals jobs as part of the industry reorganisation, Elf now has 44,000 employ-

ees in non-oil activities, against 31,000 in its traditional mainline oil business. He said it would be impossible to allow one part of the group to go on making "chronic deficits."

M. Pecqueur said the chemical sector lost around FFr 400m last year because French price controls kept chemical prices below international levels. That would be partly remedied by new regulations coming into effect in February bringing French prices up to European levels.

In its mainline crude-oil business, Elf benefited last year from the rise of the dollar against the franc, as that more than compensated for the international fall in the oil price. The group extended its oil supply diversification last year and now produces oil and/or gas in 15 countries, with Colombia added to the list in 1983. A cloud, however, continued over its U.S. operations. Including its small American crude-oil business, its specialty chemicals operations and the Texas Gulf phosphate fertilizer business, Elf's U.S. performance was only just in the black last year, M. Pecqueur said, however, that he hoped Texas Gulf would improve "clearly" in 1984 as a result of better conditions on the U.S. fertilisers market.

This announcement appears as a matter of record only.

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**IBJ**

The Industrial Bank of Japan, Limited  
 London

Floating Rate London-Dollar Negotiable  
 Certificates of Deposit due 30th January, 1987

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Credit Suisse First Boston Limited  
 Agent Bank

# INTERNATIONAL COMPANIES and FINANCE

## INTERNATIONAL APPOINTMENTS

### Worldwide head for Warner Home Video

**WARNER HOME VIDEO**, the Warner Communications company, has appointed Mr Warren Lieberfarb to head its operations worldwide as executive vice-president and general manager. Before joining Warner, he was senior vice-president of Lorimar Productions, responsible for advertising and publicity as well as network and ancillary market sales.

He was appointed vice-president marketing of Warner Home Video in 1982, from which position he was promoted to vice-president and general manager of U.S. operations, the position he currently holds.

● Oppenheimer, the U.S. investment company, has appointed Mr Francis H. M. Kelly as director of research, executive vice-president and a member of executive committee. Mr Kelly was a director, senior vice-president and chairman of the investment policy committee at Dean Witter Reynolds.

● Mr Ronald J. Gidwitz, president and member of the board of directors of Helene Curtis Industries, has been appointed a public director of the Chicago Board of Trade. He has been appointed to a three-year term, beginning on February 1. He will serve as one of three non-member public directors called for by the rules and regulations of the Board of Trade.

● Mr Harold J. Meyerman has been named executive vice-president and manager of First Interstate Bank of California's international division. Formerly senior vice-president and group head, Europe for Bankers' Trust corporate department, based in London, Mr Meyerman has been responsible for multinational and other corporate business in Europe, including global insurance and shipping.

● Dr Claus Braestrup has been appointed vice-president in charge of Novo's pharmaceutical research and development from March 19. Since 1976 he has collaborated with the Danish pharmaceutical company, Ferrosan. He has published an extensive range of scientific papers, including articles on receptors of the central nervous system and their sensitivity to drugs. Dr Braestrup will also join Novo's corporate research council.

● Mr John M. Lindsey has been elected senior vice-president, legal and corporate affairs, of Pan American World Airways. He succeeds Mr Jerome E. Hyman, who served temporarily as senior vice-president

and general counsel. He will return to the law firm of Cleary, Gottlieb, Steen and Hamilton, where he is a senior partner. Mr Lindsey was senior vice-president, administration and legal, at Southeast Bank in Miami, and corporate secretary for Southeast Banking Corp.

● Citibank has appointed Mr Francis d'Souza, vice-president, as treasurer for the bank in Bahrain. He was previously treasury head in the United Arab Emirates. Mr Kalayan Thapa takes over as treasurer for Citibank in the Emirates, based in Dubai. Both appointments are from February 1.

● Mr Joe Freeman Jr, president and chief executive officer of AM International, plans to retire. He will continue as a consultant, and will be replaced by Mr Werle Benke, who was on the company's board and was also president of Leisure Group. AM International filed for bankruptcy under Chapter 11 in April 1982.

● United Technologies has made five senior appointments at two operating units. Mr Joe E. Phillips moves up from executive vice-president to president of Pratt and Whitney's government products division in West Palm Beach, Florida. Mr James G. O'Connor becomes executive vice-president of the government products division. He had been senior vice-president, F100 programmes. Mr Morris A. Zipkin becomes senior vice-president programs for the government products division. Mr Anthony D. Autorino advances from president to chairman and chief executive officer of United Technologies building systems company in Farmington, Connecticut. Mr Frank W. McAbee Jr, president of Pratt and Whitney's government products division since 1979, has been named president and chief operating officer of United Technologies building systems company.

● Park Tower Realty has appointed Mrs Veronica W. Hackett as senior vice-president to direct the company's leasing and financing activities. She joined the New York-based property development company after nine years with Chemical Bank. Her most recent position with Chemical was senior vice-president real estate services division.

● Euro-clear operations centre in Brussels has promoted Mr Rene Vanguestaine to vice-president and Mr Peter J. Crouch, Mr Martine Dinne and Mr Jacques-Philippe Marson to assistant vice-presidents.

### Strong first half for Malayan Banking

**By Wong Sulong in Kuala Lumpur**  
MALAYAN BANKING, Malaysia's second largest banking group, has reported a strong performance for the half year to December, with after-tax profits rising by 34 per cent to 50.6m ringgit (U.S.\$ 21.7m).

The bulk of the profits came from the parent bank, the earnings of which rose by 20 per cent to 37.3m ringgit, but percentage-wise, its subsidiaries, Kwong Yik Bank, Aseambankers, Malayan Finance Corporation and Mayban-Phoenix Assurances, turned in bigger groups total deposits rose by a hefty 47 per cent to over 9bn ringgit, while loans and advances rose 37 per cent to 8bn ringgit.

Aseambankers, the merchant bank, is now a 50.5 per cent owned subsidiary, rather than an associate, and its year end has been aligned to that of the group, giving rise to an additional profit of 1.35m ringgit.

During the period, Malayan Banking opened eight more branches, bringing its branch network to 181, while the Hamburg representative office was upgraded into a full branch.

The interim dividend is unchanged at 8 cents, and the bank expects second-half earnings to be as good as those for the first.

● Cold Storage Holdings of the UK is to restructure its Malaysian operations in line with the Government's New Economic Policy by selling a majority stake to the Malays.

The deal comes in two parts. First, Cold Storage Malaysia (CSM), a subsidiary of Cold Storage Holdings (CSH), will buy Fima Supermarkets, which is 70 per cent held by CSH and 30 per cent by Fima, a Malaysian Government agency.

CSM will issue 24m new shares to CSH and Fima, thereby increasing CSM's capital to 49m shares of one ringgit each.

Following this, CSH and Fima will sell to Pradax, a Malay company, 25 per cent and 4.6 per cent respectively of their CSM shares for 44.4m ringgit in cash.

CSH will end up holding 42.5 per cent of CSM, with the remaining equity held by Pradax (29.6 per cent), Fima (10 per cent) and Malaysian and Singapore investors (17.9 per cent).

### Selwyn Parker on the financial services plans of an insurance major Transformation at NZ South British

**NEW ZEALAND** South British, the biggest private general insurance company in Australia, is planning to launch a full range of financial services similar to Merrill Lynch and Prudential Bache.

The transformation of NZ South British, which still relies on its general insurance division for 70 per cent of its revenue, into an aggressive, market-led financial services operation will start this year. "We are probably the best-positioned of any company in New Zealand to provide these services," said Mr Reg Clough, the company's public affairs manager. NZ South British has assets of NZ\$1.4bn (US\$809m).

The company has already dipped its toe in these profitable waters by adding on a variety of insurance packages to holders of its Diners Card, which is 81 per cent-owned by NZ South British in New Zealand. According to Mr David Chalmers, the chief executive, there will be a lot of cross-selling between divisions as the company evaluates consumers' needs. (It also underwrites "for very considerable amounts" Westpac's house and contents insurance package in Australia.)

He told senior managers last year: "The most successful companies are those which design their products accordingly—the message is segment, segment, segment."

At first NZ South British will offer its tailor-made bundle of financial packages within its own existing offices in Australia, New Zealand, Asia, and the Pacific. Further afield in North America it will enter into joint ventures.

It has already taken steps to strengthen its financial services vehicles in Australia and Asia. Following lobbying on its behalf by Sir Robert Muldoon, the Prime Minister, the Australian Foreign Investment Review Board allowed before Christmas NZ South British to raise from 50 per cent to 70 per cent its stake in Kimberley-NZI Finance, its Australian finance company. Though a relatively small finance company, Kimberley has increased its assets in the past two years from A\$14.5m to A\$55.4m and shifted from its West Australian base into the eastern States.

**Change of direction**

The company also spent what is understood to be NZ \$5m to buy back from the Hong Kong and Shanghai Bank in March a 2 per cent share in its NZI Finance.

The company's change of direction—"just in time," says one senior executive—follows a total and painful shake-up of objectives and of management following the merger with NZ Insurance in 1981. Mr Chalmers said the merger cost more

money and time than had been expected.

Out of the blend of two conservative insurance companies, both over a century old, has emerged a new corporate structure of more or less autonomous divisions. Each has a budget and a target return on shareholders' funds. "Accountability has been built in," explains Mr Clough. "The aim was to drive management decisions downwards, to have decisions made as close as possible to the action."

After several poor years the general insurance division came under particularly tough scrutiny. The entire underwriting portfolio was rationalised and bad risks thrown out. Though NZ South British is committed to rapid diversification, the general insurance division, which has NZ\$208m in shareholders' funds and annual revenues of NZ\$467m, still forms such a big contribution to total revenue that even a small improvement in underwriting performance makes a big difference to the bottom-line.

The new divisions, like the Patus information service, which spent nearly NZ\$10m in 1983 on buying up hardware and computer aware companies, and investment services which managed group revenue so successfully that the market value of unrealised investments jumped by nearly NZ\$50m in the first six months of the

1983-84 financial year, are the fastest-growing ones. But the general insurance improvement heavily boosted half-year post-tax earnings of over NZ\$21m—an annualised rate of 18.20 per cent on shareholders' funds.

Its traditionally cautious reinsurance policy helped NZ South British survive the shake-out in that market over the last two years but it plans to expand its reinsurance underwriting "with due care and prudence."

**Formidable resources**

The company suffered heavily in 1982-83 from Cyclone Oscar, which left it with NZ\$24m in claims in Fiji where it was the most-exposed insurer, and with the Australian bushfires (A\$15m gross, reduced to A\$9m through reinsurance).

According to Mr Chalmers, those losses delayed the results of the merger which should have come through last year.

Barring further underwriting losses, the formidable resources of NZ South British should make it a major force in the financial services area. Until last year the group's share price was depressed, but brokers, who approve of the restructuring, now recommend NZ South British as a major force in the financial services area.

In the past six months has been exchange rate losses of NZ\$3.6m largely because of weakening of the Hong Kong dollar and other Asian currencies.

### Signs of revival in KD bond market

**By Margaret Hughes**  
Recently in Kuwait

THE KUWAITI dinar bond market is slowly coming back to life and even foreign investors are once again discreetly buying "the market".

Over the past three months there have been two domestic public issues and at least three private placements by foreign borrowers. In November Charbonnages de France (a previous borrower in the market) and Dow Chemical raised KD 7m (\$23.8m) and KD 5m respectively. The C de F issue carried a coupon of 11 per cent with a 1988 maturity while the Dow Chemical bond was placed with a coupon of 11 per cent for the same five-year life.

More recently a private placement of KD 7m carrying a coupon of 10 per cent has been arranged for Citicorp. For all three issues the lead manager was Kuwait International Investment (KIIC).

Although both the C de F and Dow Chemical bonds are traded in the secondary market, a market not expected to be made for the Citicorp issue. It is believed that private placements have been arranged for other foreign borrowers over the past few months though these have not been traded in the secondary market.

After being closed down in late 1979, when dollar interest rates squeezed domestic liquidity, the market was reopened in 1980 under more restrictive guidelines. Eighteen new issues worth KD 114m were announced in the following 15 months, but the market has been moribund since the summer of 1982 when the Souq al Manakh unofficial stock market collapsed. This undermined confidence in dinar bonds along with everything else.

At current interest rate levels raising funds through a Kuwaiti dinar bond issue is cheaper than borrowing in dollars yet it provides funds in a stable currency linked, as the dinar is, to the dollar through a basket of currencies heavily weighted towards the dollar.

For the investor the yields on dinar bonds, at between 9½ and 10 per cent, are some 250 to 350 basis points higher than on dinar bank deposits.

Investors in dinar bonds are primarily institutions and the private investor, who does not have access to money at or close to interbank rates, would find his cost of funds higher than the yields offered.

An indication of the level of interest from investors who with the stagnation of the domestic economy are finding it increasingly difficult to find investment outlets, was the response to the domestic issue announced earlier this month for Industrial Bank of Kuwait. Despite carrying the lowest coupon since 1980—9½ per cent—this issue was more than four times oversubscribed.

However, despite the upturn in activity in both primary and secondary markets, it seems unlikely that the window will be fully opened to foreign borrowers in the foreseeable future.

Sheikh Ali Al Khalifa Al Sabah, the Finance Minister, said while he was keen to encourage domestic borrowers, he would "not be very happy" for the market to be re-opened to foreign borrowers. In his view the only exceptions would be those undertaking government contracts with receivables in dinars, or governments needing dinars in their currency portfolios (presumably recipients of Kuwaiti aid or soft loans). Even then, he said, the borrowing would need to be "at a very slow pace and under strict guidelines." However, the Minister will not interfere with private placements as they do not affect the market directly.

### Porsche will wait to choose U.S. partner

**BY RUPERT CORNWELL IN BONN**

PORSCHE, the West German sports car manufacturer, has no new partner in mind for its U.S. sales, following its decision to break off its import and distribution agreement of 15 years with Volkswagen of America.

This was made clear yesterday in Stuttgart by a spokesman for the company, which is owned by the Porsche and Pech families.

But a fuller statement on future plans of Porsche, and on reasons for the split, will only be made later this week. The break takes effect when the current agreement with VW expires on August 31.

The move coincides with the best-

ever performance by Porsche in the U.S., its most important export market. Sales shot up by 51.5 per cent last year to 21,850 units, bringing the total sold through the joint Audi and Porsche sales network of Volkswagen of America since 1969 to 250,000.

The decision will be a big disappointment for VW, which suffered a drop of almost 7 per cent in American sales in 1983. It now plans to set up a separate subsidiary to handle sales of cars produced by Audi, a division of the West German parent. VW aims to boost sales of Audis in the US to 81,000 from 48,000 last year.

### Saga looks for Nkr 70m profit

**BY FAY GJESTER IN OSLO**

SAGA PETROLEUM, the independent Norwegian oil company, expects to make a profit, after year-end allocations, of about Nkr 70m (\$8.9m) on its operations in 1983, according to managing director Mr Asbjørn Larsen. This compares with a Nkr 53m loss in 1982.

Mr Larsen said the company had received Nkr 150m extraordinary income last year from the sale of its interests in projects in Guatemala and in the UK North Sea.

He said that these sales and recent capital expansion had strengthened the company's financial base.

A group of international banks is

due to sign a \$600m loan agreement with Saga on February 16. This will provide the funds for its share of planned exploration and development projects. Mr Larsen forecast, however, that the company would tap the market for additional equity.

Production from Norway's Gullfaks field, in which Saga has a stake, is due to start in 1987. It would enable the company to pay its first dividend to shareholders in 1988, Mr Larsen predicted.

He also forecast that by 1985 Saga would have around 700 employees, compared with only 400 at present.

### UAE in further moves to protect bank depositors

**BY OUR ABU DHABI CORRESPONDENT**

BANKS in the UAE will be required to file annual accounts for approval before distributing dividends, increasing their capital, or making new share issues, and will be required to consult the Central Bank before finalising or publishing their annual accounts.

The move is the latest in the Central Bank's programme of bank supervision, aimed at conforming to international banking practice in the Emirates. Earlier directives included stringent requirements on auditing practices with the publication of accounts in the local Press being mandatory.

Bankers say the only part of the directive which is new is the requirement that banks file their accounts with the Central Bank before distributing dividends, increasing their capital, or making new share issues, and will be required to consult the Central Bank before finalising or publishing their annual accounts.

The object of the directives is seen as being the protection of depositors. Local banks are being encouraged to raise their reserves in proportion to assets rather than aiming at large dividends for shareholders, and the Central Bank is determined to prevent further shocks to the banking system in the wake of URMF's troubles.

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### Blue Circle South Africa down

BLUE CIRCLE, the South African cement and engineering group which is 55.1 per cent UK-owned saw turnover fall to R296m (U.S.\$234m) in 1983 from R305m and pre-tax profit to R13.2m from R20.3m, reports our Johannesburg correspondent.

Cement sales held up well, but the heavy construction equipment market was highly competitive and an expected decline

FINANCIAL CORP OF AMERICA			IMPERIAL OIL		
Fourth quarter	1983	1982	Fourth quarter	1983	1982
Revenue	417.2m	292.2m	Revenue	2,450m	2,270m
Net profit	48.7m	28.2m	Op. profit	108m	109m
Net per share	1.29	0.74	Op. per share	0.88	0.84
Year			Year		
Revenue	1,722m	1,722m	Revenue	8,020m	8,020m
Net profit	172.2m	27.2m	Op. profit	222m	222m
Net per share	5.19	1.19	Op. per share	2.00	1.84

All of these securities having been sold, this announcement appears as a matter of record only.

New Issue / January, 1984

**\$350,000,000**

## Citicorp Person-to-Person, Inc.

12½% Guaranteed Subordinated Capital Notes Due January 15, 1996

Payment of Principal and Interest Guaranteed on a Subordinated Basis by

### CITICORP

Interest on the Notes is payable semiannually on July 15 and January 15, beginning July 15, 1984. At maturity, the Notes will be exchanged, at the option of the Company, for Common Stock, \$4.00 par value, Perpetual Preferred Stock or other marketable permanent primary capital securities (collectively, the "Capital Securities") of Citicorp having a market value equal to the principal amount of the Notes.

The Notes may not be exchanged for Capital Securities prior to January 15, 1991. On or after January 15, 1991, at the option of the Company, the Notes may be exchanged in whole for Capital Securities having a market value equivalent to the principal amount of the Notes.

The Company will undertake to sell the Capital Securities on behalf of holders who elect to receive cash for Capital Securities upon an exchange of their Notes in an amount sufficient to pay the principal of such Notes.

<b>Salomon Brothers Inc</b>	<b>Lehman Brothers Kuhn Loeb</b>	<b>Morgan Stanley &amp; Co.</b>
<b>The First Boston Corporation</b>	<b>Goldman, Sachs &amp; Co.</b>	<b>Dillon, Read &amp; Co. Inc.</b>
<b>Merrill Lynch Capital Markets</b>	<b>Blyth Eastman Paine Webber</b>	<b>E. F. Hutton &amp; Company Inc.</b>
<b>Kidder, Peabody &amp; Co.</b>	<b>A. G. Becker Paribas</b>	<b>Prudential-Bache</b>
<b>Bear, Stearns &amp; Co.</b>	<b>Drexel Burnham Lambert</b>	<b>Smith Barney, Harris Upham &amp; Co.</b>
<b>Donaldson, Lufkin &amp; Jenrette</b>	<b>Lazard Frères &amp; Co.</b>	<b>Dean Witter Reynolds Inc.</b>
<b>Keefe, Bruyette &amp; Woods, Inc.</b>	<b>Shearson/American Express Inc.</b>	
<b>L. F. Rothschild, Unterberg, Towbin</b>		
<b>Wertheim &amp; Co., Inc.</b>		

هكوز احد القاص

# MORGAN STANLEY

Meet our 21 new Managing Directors.

They represent Morgan Stanley's commitment to providing superior service to clients and customers. Some play key roles in new areas such as commodities, futures, options, tax-exempts and mortgage-backed securities. Others have helped us expand our investment banking, equity and fixed income sales and trading activities, research, and management information systems.

Simply put, they're some of our best investments in the future.

**Left to right standing:**

Richard A. Smith	convertibles/international securities
Robert A. Metzler	equity sales
Michael A. Brown	corporate bond trading
Richard B. Berens	equity block trading
Dennis G. Sherys	equity research
Louis J. Carr, Jr.	equity sales/trading
William B. Cook	management information systems
David M. Deutch	tax-exempts
Donald P. Brennan	investment banking/forest products
Charles G. Phillips	investment banking
John W. Barr	investment banking/utilities

Scott C. Newquist
Michael C. Brooks
Robert F. Schiffer

leveraged buyouts
investment banking/technology
mortgage-backed securities

**Left to right seated:**

Robert B. Allardice, III	risk arbitrage
James Berkowitz	OTC trading
William D. Birch, Jr.	international fixed income
A. Macdonald Caputo	individual investor services
Robert A. Gerard	tax-exempts
Eric J. Gleacher	mergers and acquisitions
Robert B. Feduniak	commodities and futures



Signs of revival in bond market

result

# UK COMPANY NEWS

## Vibroplant recovers and lifts interim

A SUBSTANTIAL recovery has been made by Vibroplant in the half year ended September 30 1983 and the current six months are expected to provide a contribution to profits despite problems in VI Leisure. The directors are forecasting a higher dividend for the year.

For the first half turnover moved ahead from £7.49m to £10.63m, and profit advanced from £328,000 to £1.32m. This reflects an increase in demand for plant hire and the elimination of losses from Leisure, and pulls the group back to the level of profits enjoyed in the late 1970s.

Turnover in plant hire was up 28 per cent to 29.1m and profits fetched £1.31m against £906,000, while Leisure traded at a small surplus, compared with a loss of £578,000. Leisure makes video juke boxes for clubs and pubs.

The directors report that since September Vibroplant has continued to trade satisfactorily and should be able to report hire figures for the second half in line with last year. With regard to Leisure, the agreed level of orders from London and Liverpool Trust has not materialised; as a result Leisure may incur significant losses in the second half which are at present difficult to quantify.

Despite the latter the directors are confident that there will be an overall contribution to group profit from the second half, and that steps being taken will be successful in preventing further Leisure losses beyond the end of the financial year.

The interim dividend is lifted from 2.625p to 3p net, and the directors expect to recommend a final of not less than 5p compared with 4.6375p. In each of the three years to March 31 1982 the company paid a dividend total of 14.525p.

### HIGHLIGHTS

Lex looks at the discussions between Trafalgar House and Scott Lithgow, the ship repair yard, and what the former's strategy may be in this approach before turning to consider an equalising purchase of just under 5 per cent—in Powell Duffryn by Hanson Trust. The column then looks at the moves to transform the plantation sector. Finally Lex comments upon the Hong Kong property market. Elsewhere the Arthur Bell-Gleneagles battle roles on while Bell acquires a U.S. distributor, and an unexpected deal of the day was gas appliance group, Valor, taking a 29.9 per cent holding in Dreamland. Back onto company news, Vibroplant is making a recovery but in the same breath issuing warnings about the second half, while TV South surprised the analysts with a 25m swing into the black.

After tax £688,000 (£55,000) and minorities £889 (credit £13,000), the net attributable profit came out at £574,000 (£286,000). Earnings are 10.56p (£4.76p) and the interim cost is £132,000 (£115,500) after waivers of £48,000 (£42,000).

comment  
In an attempt to find a counter cyclical profits centre to

## TV South £4.46m in its first full year

IN ITS first full year of broadcasting, Television South has made a pre-tax profit of £4.46m, compared with a loss of £1.1m. However, the figures are not comparable. The 1982 result, which was for a 17-month period, was restated and included only 10 months of broadcasting.

## Surge halftime for Harvey & Thompson

As indicated at the annual meeting, pre-tax profits of Harvey & Thompson, pawnbroker, have shown a marked increase with six-month figures up from £32,000 to £187,000 to December 31 1983. For the whole of the previous year profits were £162,000.

The chairman adds that in view of the "continued progress" of Harvey, the directors are paying an interim dividend of 1.5p—last year's single, final payment, was 1.5p.

## Newman-Tonks advances to £3.46m for 15 months

FOR THE 15 months ended October 31 1983 Newman-Tonks Group, metal hardware manufacturer, turned in taxable profits of £3.46m, compared with £2.71m for the previous year, on turnover of £81.87m against £47.12m. Profits and turnover for the 12 months up to July 31 last were £2.8m and £49.38m respectively.

Pre-tax figure for the full period included £968,000 earned by Monarch Hardware and Manufacturing of the U.S., acquired in August 1982, less £400,000 for financing charges and group market development costs in the U.S. Group profits also included £707,000 (£589,000) in respect of Jeavons Engineering, merged with last March.

comment  
With a full year's results at Newman-Tonks already in the can, yesterday's 15-month figures add little to the picture, especially as the autumn quarter is traditionally the leanest time

### DIVIDENDS ANNOUNCED

Company	Current dividend	Date of payment	Corr. %	Total last year
Harvey & Thompson Int	1.5	Mar 10	9.45	8.95
Newman-Tonks	1.281	Apr 2	2.8	4
Nova (Jersey) Knit	1	Apr 6	4	7
Rae Estates	5	Mar 26	1.75	4.75
Stock Conversion Int	2	Mar 28	2	4
Textured Jersey	1.75	Mar 28	2	4
TV South	1.5	Mar 9	2.83	7.36
Vibroplant	3	Mar 9	2.83	7.36

Dividends shown pence per share net except where otherwise stated. † On capital increased by rights and/or acquisition issues. ‡ USM stock. § Unquoted stock. † For 15 months.

£18,000 (£80,000), extraordinary debits £498,000 (nil), and ACT recoverable £103,000 (£295,000).

On a nil distribution basis earnings per 25p share were 10.31p (9.2p) and 9.89p (7.96p) on a net basis.

comment  
With a full year's results at Newman-Tonks already in the can, yesterday's 15-month figures add little to the picture, especially as the autumn quarter is traditionally the leanest time

## Gable House set to 'comfortably exceed' £0.5m

At the annual meeting of Gable House Properties shareholders were told that pre-tax profits for the year to June 30, 1984 would "comfortably exceed" the prospectus forecast of £500,000.

In a statement last December with the preliminary results for 1982/83, showing profits up from £60,000 to £310,000 at the pre-tax level, the directors were confident that figures for the current year would exceed the forecast—the company's shares are traded on the USM.

Referring to Park Saint James, the meeting was told that the company had now accepted an offer of £700,000 for the complete sixth floor of the scheme, and assuming this agreement proceeded satisfactorily through legal implementation, this brought total pre-sales to £2.32m.

## Nova Knit reorganisation benefits coming through

FOR the six months ended September 30 1983 profit of Nova (Jersey) Knit has fallen from £250,000 to £85,000, which, the directors claim, is in line with expectations. They are cutting the interim dividend from 2.5p to 1p net.

comment  
In a reorganisation of its dye-

## Priest Marians

Priest Marians Holdings, property investment company, reported pre-tax profits of £1.596 for the 10 months to December 31, 1983, compared with losses of £26,734 for the preceding 10 months.

The figures were after deducting gross interest of £12,517 (£12,112), general expenses and pensions of £9,355 (£9,394), property expenses of £13,832 (£12,453) and decline in value of investment gains of £12,296 (£17,999 losses).

comment  
The directors are expecting a further recovery in 1984 but point out that businesses serving the resources industries, particularly mining and metals, may not improve much until the second half.

## Fleming Overseas

Improved net revenue of £1.56m against £1.1m has been shown for the half year to the end of 1983 by Fleming Overseas Investment Trust. Net asset value per 25p share came to 366.1p against 277.4p—at the end of last June the figure was 338p.

comment  
The directors are expecting a further recovery in 1984 but point out that businesses serving the resources industries, particularly mining and metals, may not improve much until the second half.

## Renwick Group reduced to £722,000 at halfway stage

A REDUCTION in pre-tax profits from £786,000 to £722,000 has been shown by Renwick Group for the first half to the end of September 1983. Turnover of this Palgton, Devon, based travel agent, boat builder and international coal trader slipped from £39.14m to £37.61m.

comment  
The directors say that in their last annual report they had said that the company's financial year would in future finish at the end of February. A further alteration to the end of December will now take place, in order to match a change in the year end of the ultimate holding company.

## Commercial Bank of Wales pre-tax rise

Following an increase from £402,000 to £625,000 at the halfway stage, pre-tax profits of unquoted banking company Commercial Bank of Wales finished 1983 ahead at £1.25m, compared with £716,000.

comment  
The directors say that the tax credit last time reflected the release of deferred tax previously provided in respect of leased assets.

comment  
The directors intend to apply for a listing of the company's ordinary shares as soon as formalities can be completed.

## Platignum concludes its programme of change

THE board of Platignum, the Stevenage manufacturer of writing instruments and plastic mouldings, yesterday announced the three concluding phases of the re-organisation programme, which started in April, 1983.

comment  
The directors intend to apply for a listing of the company's ordinary shares as soon as formalities can be completed.

# GUINNESS PEAT

Points from the Chairman's Statement:  
The Right Hon Lord Croham GCB

- "Late last Summer the Group's fundamental reorganisation was completed."
- "Guinness Peat looks forward confidently to a level of profits in the current year that begins to reflect its real potential."

Guinness Peat Group plc

Guinness Mahon & Co - Merchant Bankers


Fenchurch Insurance Holdings - Insurance Brokers

Guinness Peat Securities  
Financial and Management Services, Property, Energy, Development Capital, International Trade and Project Management.

If you would like a copy of the 1983 Report & Accounts, please write to:

The Secretary, Guinness Peat Group plc  
32 St Mary at Hill, London EC3P 3AJ

**Grindlays Eurofinance B.V.**  
U.S. \$ 100,000,000  
Guaranteed Floating Rate Notes 1994  
Guaranteed on a subordinated basis by



**Grindlays Bank p.l.c.**  
In accordance with the provisions of the Notes, notice is hereby given that the interest period 1st February, 1984 to 1st August, 1984 the Notes will bear an interest rate of 10 1/4 % per annum.

The interest payable on the relevant Interest Payment Date, 1st August, 1984 against Coupon No. 1 will be U.S. \$511.88.

Agent Bank  
Grindlays Brands Limited


**STOCK CONVERSION**  
PROPERTY INVESTMENT, DEVELOPMENT & DEALING

Half Year to 30th September 1983

- \* Profit on ordinary activities before taxation up by 12% from £6,895,000 to £7,746,000.
- \* Profit on ordinary activities after taxation and minorities up by 21% from £3,072,000 to £3,724,000.
- \* Earnings per share up by 21% from 5.87p to 7.11p.
- \* Interim Dividend up by 14% from 1.75p to 2.00p per share.

Copies of the full interim statement may be obtained from the Secretary.

**THE STOCK CONVERSION AND INVESTMENT TRUST plc**  
130 Jermyn Street, London SW1Y 4UP. 01-833 7361.



U.S. \$150,000,000  
**CHASE MANHATTAN OVERSEAS BANKING CORPORATION**  
FLOATING RATE NOTES DUE 1993

For the six months 31st January 1984 to 31st July 1984  
In accordance with the provisions of the Notes, notice is hereby given that the rate of interest payable on the relevant interest payment dates, 31st July, 1984 against Coupon No. 12 will be US \$51.19

Agent Bank: Morgan Guaranty Trust Company of New York, London

Handwritten Arabic text

Companies and Markets

BIDS AND DEALS

First half £0.9m rise for Stock Conversion

PRE-TAX profits of Stock Conversion and Investment Trust rose by £81,000 to £7.75m for the six months ended September 30, 1983 and the interim dividend is being lifted by 0.25p to 2p net per 25p share.

The amount of final will be determined in the light of the full year result and the circumstances prevailing—a total distribution of 4.75p was paid previously.

Group profits for the opening half improved from £5.5m to £5.04m and included dealing profits of £18,000, compared with £139,000. Associates added £350,000 more to £1.2m.

£3.5m was accrued for £3.5m, against £17,000 to £194,000. As the attributable level of profits emerged £582,000 ahead at £3.7m after taking in extraordinary credits of £396,000 (£30,000), being the surplus on valuation on investment property disposals.

Earnings came through at 7.11p (5.5p) per share. The company's business is property investment, development and dealing and also includes investment in securities and insurance broking.

Macanie defers stock exchange

Because of the possibility of adverse tax effects, Macanie (London) has adjourned the meetings called to approve the exchange of stocks with Courtauld, its parent company. The directors are awaiting clarification of the position.

The meetings were fixed for yesterday to consider exchanging £100 of Macanie's 7 1/2 per cent secured stock 1986-91 and 7 1/2 per cent unsecured loan stock 1981-82 for £112.50 and £111 respectively of Courtauld's 7 1/2 per cent unsecured loan stock 1984-86.

The directors explain that recently published draft tax legislation could lead to the classification of the stock being offered in exchange as a "deep discount issue". If such legislation was implemented in its present form, there could be adverse tax consequences to certain categories of investor who could be liable to income or corporation tax on the proceeds from the disposal or redemption of the Courtauld stock.

Assurances have been sought from the Inland Revenue that such treatment would not be applied in the circumstances of these proposals, but these have not been forthcoming.

Ruo Estates

On turnover that was up by less than 50 per cent, Ruo Estate Holdings managed to double its pre-tax profit for the year ended June 30 1983.

Turnover for the year was £2.98m (£2.01m), while pre-tax profit increased by £746,000 to £1.42m. There was a tax charge of £781,000 (£364,000) leaving earnings per share at 45p (22.5p).

A final dividend of 5p (4p) has been declared, making a total of 7p (4p).

Steeley

Steeley intends to build a 50m brick capacity works on a site in North Staffordshire, producing simulated hand-made bricks. Completion is for 1985, will set high standards of energy efficiency.

The plant, costing £11m, follows the construction of a new brickmaking plant at Tordilis, North Staffordshire, completed in July 1983 and the rebuilding now in progress of a clay roofing tile plant at Keele, North Staffordshire.

0222-495507 HOT-LINE for Company Searches

Table with 2 columns: Search and Fee. Search and Fee 12.50, Search only 9.50, Accounts only 7.50, Fiche 2.50, +VAT, Call us today!

BRENTORIAN LIMITED 372 Newport Road, Cardiff CF3 7UG

KANSALLIS-OSAKE-PANKKI USS100,000,000 Floating Rate Capital Notes 1992

In accordance with the provisions of the Notes, notice is hereby given that the Rate of Interest for the first Interest Period has been fixed at 8 1/2 per cent annum. The Coupon amount will be USS257.24 for the USS55,000,000 denomination and USS12,861.19 for the USS230,000,000 denomination and will be payable on the 1st August 1984 against the surrender of Coupon No. 1.

LADBROKE INDEX 831-835 (-4) Based on FT Index Tel: 01-493 5961

H & C £20m Malaysian sale talks

BY DAVID DODWELL

Harrison & Crossfield, the plantations, chemicals and timber group, has begun talks which may lead to the sale of stakes—held directly or indirectly—in 10 Malaysian plantations companies. The deals could be worth more than £20m for Harrison's.

The move is aimed at further strengthening local control of Malaysian plantation companies which were once part of the Harrison & Crossfield group in Malaysia.

It follows directly from the sale to Permodalan Nasional Berhad, Malaysia's national investment agency, of its controlling interest in Doranaka and Malaysia Rubber. In September 1982, that deal earned Harrison & Crossfield about £146m.

HMP revealed in Kuala Lumpur that it had begun talks with its one-time parent on a bid for the ten plantations companies. Payment would be in the form of both cash and shares.

The companies were Castlefields (Klang) Rubber Estate, Holyrood Rubber, Kuala Selangor Rubber, Sopomana Group, Kinto Kelias Rubber Estates, Sungai Bahru Rubber Estates, Doranaka Rubber Estates and Malaysia Rubber—all quoted on the London Stock Exchange—and two unlisted companies, Edensor Rubber Estate, and Nalek Rubber Estate.

Harrison and Crossfield has direct or indirect stakes in all of these companies. Two are simply holding companies, with-out plantation interests—Doranaka and Malaysia Rubber. Sopomana is an independent company in which Harrison and Crossfield nevertheless holds a stake. HMP acts as managing agent for all of the companies.

Share values in several of the companies leapt yesterday—Sopomana by 85p to 600p, Castlefields by 65p to 850p, Doranaka by 35p to 180p, Kinto Kelias by 80p to 280p, Holyrood by 28p to £33, and Kuala Selangor by 50p to 800p.

The aggregate value of the companies, in terms of market capitalisation, is about £61.5m. However, substantial cross-holdings means the true market capitalisation is lower.

Mr Tom Prentice, Harrison's chairman said in London yesterday that discussions on a price for each of the companies have yet to take place. HMP is likely to pursue talks with each company separately.

It is understood that no deals are likely to be completed before the middle of Spring. Mr Prentice, nevertheless, suggested yesterday that Harrison's expected to emerge from the deals with at least £30m. He could not disclose whether Harrison's would maintain any interest in the companies HMP sought to buy.

In September 1982, Harrison's sold 88 per cent of the shares in what was then Harrison's Malaysian Estates to Permodalan. It has retained a 30.3 per cent stake.

Malaysian financial circles say the rubber companies concerned have recently updated their valuations, and huge surpluses have been thrown up considering that many of them have land which are ripe for large development.

HMP is now Malaysia's largest plantation group with nearly 230,000 acres, following the MS195m cash (£87.1m) takeover of Barlow Plantations last April. HMP has a paid-up of MS365m, and a current market capitalisation of nearly MS25b.

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Sabrelance queries SB board support

Sabrelance, the licensed dealer in securities acting for Chelsea Football and Athletic Company, has queried the support of the board of SB Property in its support of a bid by Marler Estates.

The move follows the legal action launched by the Chelsea Football and Athletic Company, which it gained an injunction against SB, and its board, preventing the transfer of shares in the property company until at least tomorrow.

Under a proposed deal SB had agreed to sell to Marler Estates for £1.25m if options are taken up with Marler's Jersey-based associate, Biade, Pilsade, long connected with Marler, a quoted property company, is a discretionary trust incorporated in the Isle of Man.

Sabrelance claimed yesterday that one director of SB Property, Robert Friedman, had not been asked to consider and approve the contents of the circular letter sent by Strauss Turnbull on behalf of Marler Estates to SB shareholders nor had the director been present at any board meeting at which it was proposed to recommend the offer to shareholders.

Sabrelance said that the circular letter contained a responsibility statement made by all the directors of SB "and a recommendation from the board of SB to the shareholders to accept the offer from Marler." It added that no mention is made in the circular letter that the director "has not approved the offer or the recommendation itself."

Sabrelance has requested clarification from Strauss Turnbull. If the whole board has not approved the circular, then Sabrelance has suggested, it should be withdrawn.

Share stakes

Futura Holdings — Gedma Investments hold 40,105 ordinary (£3.23 per share).

English Association Group — Following its offer for Rosemount Investment Trust becoming unconditional, the company has notified of the following interests in its enlarged capital: E. D. & F. Man 4,825,568 shares (15.3 per cent); United Kingdom Temperance and General Provident Institution 2,105,734 shares (13.18 per cent); and Clair International NV 869,700 shares (5.33 per cent).

Property Security Investment Trust — Director A. R. Perry has an interest in a further 371,608 ordinary, lifting his total interests to 1,860,760 ordinary and 21,011 preference.

The non-beneficial interests of director M. Lester have been reduced by 2,854,355 ordinary and 178,300 floating rate unsecured capital notes 1986, by virtue of his retirement as trustee on certain trusts on which the securities are held.

Yorksire Chemicals is acquiring the leather fatliquor manufacturing division of Ellis Jones and Co as from February 10. Ellis will relinquish its contacts with the leather industry in order to concentrate on developing its other interests.

The reduction of the capital of Ellifort by the cancellation of 24,999 shares, became effective on January 27, on which date the authorised capital was restored to its previous amount.

Norwegian partners in Hamting Savers A/S, a newly registered Norwegian company, are to take a controlling interest in the company which is at present held by Hamting Surveys of the UK. The company will be renamed.

The directors of Twinklack have decided to redeem all the outstanding 15 per cent (formerly 12 per cent) unsecured loan stock 1976-99 at a premium of 6 per cent of its par value, together with accrued interest on April 30 1984. There on each nominal £100 of stock there will be paid £110.96 net.

Caparo aid for Brockhouse

BY DAVID DODWELL

MR SWAJ PAUL'S Caparo Group revealed yesterday that it has offered to inject £5m of new share capital into Brockhouse, loss-making Birmingham-based engineering transport and building materials group, in a deal which would give Caparo effective control of the group.

Caparo has held a 17 per cent stake in Brockhouse for more than a year. The £5m share injection—of 20m shares at a par value of 25p—would boost Caparo's stake to almost 62 per cent. Brockhouse's shares slipped by 5p to 32p on the news, while Caparo's shares improved by 6p to 43p.

The Takeover Panel indicated yesterday that subject to shareholder approval, it would be prepared to allow the deal to go through. Mr Reg Parkes, chairman of Brockhouse, said yesterday that he had not had the opportunity to see Caparo's proposals in detail and was therefore not in a position either to recommend or contest the terms.

He told shareholders at Brockhouse's annual meeting that while current trading was "up to expectations," cash flow in the UK had "fallen short" of the projections drawn up in September last year. That was the date Brockhouse renegotiated its loan limits with its bankers.

Mr Parkes said that overseas sales, which account for about 30 per cent of sales, remained buoyant, while in the UK, which accounted for most of the company's losses, performance was "in line with targets."

Losses for the year to September 30 1983 were £265,000, compared with £1.57m in 1982. Turnover expanded to £68m from £63.9m over the same period.

Bell in £12m U.S. expansion

BY DAVID DODWELL

Arthur Bell, Scotch whisky distributor, has agreed to acquire Wellington Importers to act as its distributor in the U.S., in a deal worth \$16.5m (£11.7m).

Wellington, based at Lake Success in New York, imports Scotch whisky into the U.S., and owns the brand names Barbella and Boucheron. Bell said yesterday that the company would expand its own product line as well as distribute Bell's products in the U.S.

The deal is to be funded in part by a \$12m seven-year loan facility in New York, and in part from Bell's own resources. It comes just a week after Dis-

Valor lifts Dreamland stake

BY CHARLES BATCHELOR

Valor, the manufacturer of gas heaters and cookers, has acquired a further 6.5m shares of Dreamland Electrical Company, the electric blanket maker, taking its holding to 29.9 per cent.

Mr Michael Montague, Valor chairman, said: "We are looking at spreading further into the electrical market and this block of shares was an opportunity."

The gas appliance group bought the shares from Grove-

Maynards defence forecast

The Zodiac Toys division is extending four shops and negotiating the purchase of three new ones in a move which will add 11,900 sq ft of sales area to the existing 111,900 sq ft by June 1984.

Maynards expects to open between six and eight new stores of 2,500-3,000 sq ft in the year beginning July 1984, it said. Mr Robert Ramsdale, chairman, said in his letter that the board remains opposed to Mr Cartier's 250p cash offer, even if he extended it to the entire ordinary capital. It would offer for 51.5 per cent of the equity. Mr Cartier is also offering 100p cash for the preference shares.

Maynards rejected Mr Cartier's claim that it held too high stocks and that the current number of rent reviews due on its properties were out of the ordinary.

Whether or not there might be a bid, we will look at any situation as it develops in the interests of our shareholders. Dreamland's profits fell in 1980 and the company made a pre-tax loss of £251,000 in 1981 before recovering to a small profit of £56,000 in 1982. In the first nine months of 1983 it recorded a pre-tax profit of £294,000, against a loss of £251,000 in the comparable period.

Discussions have already begun on the sale of these shops at a price which would produce a substantial surplus over asset value and the goodwill element is expected to significantly exceed associated redundancy costs, Maynards said.

Mr Cartier said in response to the letter that he had calculated redundancy and closure costs for the newsgents shops division at £1.75m with another £700,000-worth of tax liabilities.

He claimed he had found a "blue chip" English company interested in acquiring the shops in a single purchase. Maynards shares were unchanged at 245p yesterday.

BIDS AND DEALS IN BRIEF

MY factories in Barmet and Maryport respectively, will add £800,000 to group turnover.

Following the completion of various legal formalities the transfer has taken place to Lloyds Bank of certain parts of the commercial banking business and the whole of the investment banking business of Schroder, Munchmeyer Hengst and Co.

The offer by Grand Metropolitan Investments for the preference capital of Grand Metropolitan Hotels (Scotland) has been extended to February 10. Acceptances have been received in respect of 89.9 per cent of the capital. The offer has not been declared unconditional.

AC an EGM of Sandhurst Marketing a resolution was passed appointing the issue of 20 per cent partly-convertible cumulative redeemable preference shares of £1 each to the IFC division of Investors in Industry (3i) and Equity Capital Trustee, a subsidiary of Equity Capital for Industry. Accordingly, the company has issued a long term loan facility from £25m now taken place.

Acceptances of the offer by Slough Estates for Allnatt London Properties and the shares in Guildhall Property, not owned by Allnatt, have been received in respect of 39,277,064 (98.19 per cent) in Allnatt, and 3,844,459

Continental Telephone International Finance Corporation

5 1/2% Guaranteed Debentures Due 1988

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of March 1, 1968 under which the above described Debentures were issued, Citibank, N.A., as Trustee, has drawn by lot for redemption on March 1, 1984, through the operation of the sinking fund provided for in said Indenture, \$471,000 principal amount of Debentures of the said issue of the following distinctive numbers:

Table with 2 columns: COUPON DEBENTURES OF \$1,000. PRINCIPAL AMOUNT OUTSTANDING. Columns 1-25 for coupon numbers, 26-27 for distinctive numbers.

The Debentures specified above are to be redeemed for the said sinking fund at the office of the Trustee, 111 Wall Street, in the Borough of Manhattan, The City of New York, State of New York, the main offices of Citibank in Amsterdam, London, Paris, Frankfurt/Main, Milan or Brussels or at the office of Krefeldbank S.A. Luxembourg in Luxembourg, as the Company's voting agents, and will become due and payable on March 1, 1984, at the redemption price of 100 percent of the principal amount thereof plus accrued interest on said principal amount to such date. On and after such date, interest on the said Debentures will cease to accrue.

The said Debentures should be presented and surrendered at the offices set forth in the preceding paragraph on the said date with all interest coupons maturing subsequent to the redemption date. Coupons maturing on March 1, 1984 should be detached and presented for payment in the usual manner.

For CONTINENTAL TELEPHONE INTERNATIONAL FINANCE CORPORATION By CITIBANK, N.A., Trustee January 31, 1984

GOULD INTERNATIONAL FINANCE N.V.

9 3/4% Guaranteed Notes Due 1985

Issued under Indenture dated as of March 1, 1979

NOTICE IS HEREBY GIVEN that pursuant to the provisions of the above-mentioned Indenture, \$20,000,000 principal amount of the above described Notes has been selected by lot for redemption on March 1, 1984 at the principal amount thereof together with accrued interest to said date, as follows:

Table with 2 columns: Outstanding Notes of U.S. \$1,000 Each of Prefix "31" Bearing Serial Numbers Ending in the Following Two Digits. Columns 1-25 for serial numbers, 26-27 for distinctive numbers.

Also Outstanding Notes of U.S. \$1,000 Each of Prefix "M" Bearing the Following Serial Numbers: 1 8 578

On March 1, 1984 the Notes designated above will become due and payable in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts. Said Notes will be paid, upon presentation and surrender thereof with coupon due March 1, 1985 attached thereto, at the option of the holder either (a) at the corporate trust office of Morgan Guaranty Trust Company of New York, 30 West Broadway, New York, New York 10015, or (b) at the main office of Morgan Guaranty Trust Company of New York in Brussels, Frankfurt/Main, London or Paris or the main offices of Credito Romagnolo S.p.A. in Milan, Bank Morgaz Labouchere N.V. in Amsterdam, Banque Internationale à Luxembourg S.A. in Luxembourg or Swiss Bank Corporation in Basel. Payments at the offices referred to in (b) above will be made by check drawn on a dollar account, or by transfer to a dollar account maintained by a bank in New York City bank.

Coupons due March 1, 1984 should be detached from the Notes and collected in the usual manner. On and after March 1, 1984 interest shall cease to accrue on the Notes herein designated for payment.

GOULD INTERNATIONAL FINANCE N.V. By MORGAN GUARANTY TRUST COMPANY OF NEW YORK, Trustee Dated: January 26, 1984

Daily Mail and General Trust PLC Statement by Viscount Rothermere, Chairman

The last year has seen the return of a Conservative Government for a second term, and the start of economic recovery. There is a steadily growing confidence which has been reflected in Stock Market prices that there will be a continuing gradual improvement in the coming months.

Inflation is much more under control, interest rates are stable with hopes of their reducing further, and those companies which had to cut back staff and inventories are now the better equipped to take advantage of the upturn.

Whilst there have been few changes in our U.K. portfolio, we have agreed with our American advisers that the U.S. Stock Market was too high and we took the opportunities as they occurred to liquidate some of our U.S. holdings and have retained the dollars on short term deposit.

These changes have meant a small reduction in Unfranked Income from North America, more than offset however by an increase in Other Interest. But for dividend timing alterations, the increase in Franked Income would have been more than marginal. Even so we can report that Net Revenue from our general portfolio has increased by £97,000.

After allowing for the increased dividend from Associated Newspapers Holdings p.l.c. the net earnings were 34.8p per share, against 31.4p per share, and the Board is recommending, because of the Company's close Company status for taxation purposes, that the total distribution on the Ordinary and 2' Ordinary Non-Voting Shares be 34.5p per share.

The value of our holding in our Associated Company has increased markedly over the last year—as have all newspaper shares with interests in Reuters. However, the financial results have themselves shown a satisfactory improvement.

Slough Estates plc

(Registered in England No. 167591) Issue of up to £33,343,418 12% per cent. Unsecured Loan Stock 2009

(In connection with the Offers by Slough Estates plc to acquire the entire issued share capital of Allnatt London Properties PLC ('Allnatt') and the issued Ordinary share capital of Guildhall Property Company PLC not owned by Allnatt)

The Council of the Stock Exchange has admitted the above Stock to the Official List. Particulars of the Stock are available in the Extel Statistical Services and copies of such particulars may be obtained during normal business hours (Bank Holidays and Saturdays excepted) up to and including 15th February, 1984 from:

Sheppards and Chase Clements House 14-18 Gresham Street London EC2V 7AU Charterhouse Japhet plc 1 Paternoster Row St Pauls London EC4M 7DH Rowe & Pitman City Gate House 39/45 Finsbury Square London EC2A 1JA

MINING NEWS

APPOINTMENTS

Cominco expecting a better year

BY KENNETH MARSTON, MINING EDITOR

FOURTH quarter 1983 results now flowing from the transatlantic natural resource majors make a mixed showing. But at least Canada's Cominco metals and chemicals group says that it expects an improvement this year on the basis that economic growth in North America is expected to continue and other western economies should improve.

Metals Ex and North Kalgurli improvements

AUSTRALIA'S Metals Exploration reports a half-year net profit of A\$198,000 (£128,000) compared with a loss of A\$202,000 a year ago. At the same time, the turnover dropped to A\$543,000 from A\$724,000, reflecting the policy of reducing operations pending a recovery in metal markets. Because of low prices for nickel the small, but good grade, Nepean in Western Australia remains closed.

Granville & Co. Limited

Table with columns: 1983-84, Company, Price Change, Gross Yield, P/E, Fully. Lists various companies like High Low, Ass. Bnt. Ind. CULS., etc.

DEVOE-HOLBEIN INTERNATIONAL N.V.

Notice is hereby given to shareholders that the Common Shares of the Company have been split to the effect that each share of US \$ 0.25 par value has become two and one half (2 1/2) shares of US \$ 0.10 par value.

New stock certificates are in the process of being printed to replace the present certificates. Pending this each present certificate shall be recognized from the effective trading date of January 24, 1984 to represent two and one half times the number of shares stated on the certificate.

January 31, 1984. DeVoe-Holbein International N.V.

TORONTO DOMINION BANK New York Branch \$50,000,000 Floating Rate Certificates of Deposit Due January 1987 (U.S. Treasury Bill Indexed) Moody's: Aaa Standard & Poor's: AA+ Merrill Lynch Capital Markets

in the Cominco group, Vestron Mines, which operates the Black Angel mine in Greenland, made a fourth quarter net profit of C\$2.9m on the sale of U.S. oil and gas properties.

Associated Pulp boosts NBH profits midterm

INVESTMENT INCOME has been supplemented as the major contributor to earnings of Australia's North Broken Hill Holdings by profits from Associated Paper Mills, which was acquired last February.

MINING NEWS IN BRIEF

COMMERCIAL PRODUCTION from a gold property near Pailin in the state of Kelantan in Malaysia is expected to start in early 1985, according to Malaysia Mining Corporation (MMC).

An underground fire has been detected at the state-assisted Vesterpost gold mine in the Consolidated Gold Fields group.

The Australian mining and industrial group Peko-Wallend has paid A\$4.6m (£3m) to lift its stake in Beach Petroleum, an oil and gas exploration company.

Southern Peru Copper Corporation (SPCC) has declared a combined dividend and joint venture distribution of US \$15m (£10.7m), payable on February 1.

The operation has so far cost M\$1.23m (£373,000), with a further M\$1.27m still to be spent.

BOARD MEETINGS table listing companies and meeting dates.

Senior posts at Chesebrough-Pond's

CHESEBROUGH-POND'S has made the following appointments: Mr John P. Freeburn has been promoted to financial director.

Mr Roy Freeburn has been appointed managing director of FAIRY ARION companies.

Mr Roy Freeburn, managing director of Fairy Arion companies.

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Senior posts at Chesebrough-Pond's

European vice president of Lee Apparel UK. Mr. DAWES, INTER-NATIONAL HOLDINGS has appointed Mr. Kenneth M. Elliott to the board.

Mr. Turner and Newall has made the following appointments: Dr. V. Lorenzini, managing director of Ferodo Italiana SpA.

Mr. Roy Freeburn has been appointed managing director of FAIRY ARION companies.

Mr. Roy Freeburn, managing director of Fairy Arion companies.

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BASE LENDING RATES table listing various banks and their rates.



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NEW YORK STOCK EXCHANGE 25-28  
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# SECTION III - INTERNATIONAL MARKETS

# FINANCIAL TIMES

Japanese to increase  
 Samurai bond  
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Tuesday January 31 1984

## WALL STREET

### Reagan role in rally is short-lived

PRESIDENT Reagan's confirmation that he will seek re-election to the White House this autumn proved little solace for Wall Street, where a further bout of selling took the stock market down to its lowest level for two and a half months. However, a rally in the final half hour cut losses by about one third, writes Terry Byland in New York.

The market opened higher but swiftly turned down when the sellers reappeared. Increased selling in the latter part of the session drove the Dow Jones industrial average down by more than 12 points at one time, before some bargain hunting in the final 30 minutes left the Dow Jones industrial average at a closing level of 1,221.52, a net 8.48 down. Turnover was heavy, with 102m shares traded.

Views of the outlook for interest rates continued to diverge, with some quarters believing that the slowing down in economic growth will permit rates to ease, while others see a tightening of Federal Reserve credit policies this year.

With a number of factors urging caution this week, bond prices held steady for much of yesterday's session. The

Fed's Open Market Committee met yesterday and will convene again today.

On balance, the market expects little change in Fed policies to emerge from the meetings. But tomorrow is expected to bring details of the Treasury's \$1.5bn-\$16bn funding programme for the next quarter, which could put upward pressures on interest rates.

The stock market opened with a burst of strength, spurred on by Friday's news of a \$2.7bn fall in M1 money supply for the week. Trading was brisk, but buyers were mostly those needing stock to meet selling deals made during last week's fall in the market.

When these professional operations were completed, selling recommenced and prices fell smartly. With the final quarter reporting season for 1983 now half completed, the stock market is looking at a downturn in profits from the previous quarter, which has undermined the prospects for an earnings-driven gain in the market.

Once again, IBM gave ground, shedding 1% to \$113. Major institutions have been selling IBM stock, attracted by the sizeable profit available on their holdings.

Other leading issues to meet fresh selling pressure included General Electric, 5% off at \$53, Minnesota Mining and Manufacturing, 3% down at \$76, Hercules 1% lower at \$33 and Motorola, 1% down at \$120.

Selling of both airline and railroad issues contributed to a fall of more than 3 per cent in the Dow Jones transportation average.

Top of the active list by a wide margin was Texaco, after a 5.1m share block changed hands, putting the price \$2 1/2 up at \$37. Investors took the view that Texaco's \$90m sale of some overlapping assets of Getty Oil will ensure that the merger goes through without anti-trust problems.

Energy and technology issues remained active. Wang Laboratories, 5% up at \$30 1/2 and Te Com Communications, 3% off at \$22 1/2, were prominent spots.

In other sectors of the New York Stock Exchange, the American Stock Exchange and the Nasdaq over-the-counter market, prices showed widespread falls.

Texas Instruments, 1% off at \$130, U.S. Steel, 5% down at \$30 1/2, and Monsanto, 5 1/2 off at \$9 1/4 were among those to lack support.

The firm sector was oils, still hoping for further bid moves at prices which would benefit both the low priced domestic groups likely to be the targets, and the major oil companies, likely to be leading the buying.

In the credit markets, prices were better where changed but there was a general inclination to await Wednesday's news on Treasury funding.

At 10 1/2% the key long bond yielded 11.75 per cent having fallen 1/4 from Friday's closing price after the money supply announcement.

The Federal Reserve helped the short end of the market with \$1.5bn customer repurchases, when the federal funds rate touched 9% per cent. Treasury bill rates hardly changed.

## TOKYO

### Electricals dim after early spark

SELECTIVE buying of blue-chip issues persisted in early Tokyo trading yesterday - particularly among electrical stocks - but the trend tapered off later as investors moved to the sidelines for fear of a corrective fall, writes Shigeo Nishitani of Jiji Press.

The Nikkei-Dow market average ended the morning session just over 63 points higher than last week's close, but lost strength gradually, closing the day at 10,235.73, up 29.28. Turnover came to 295.10m shares, a substantial decrease from last Friday's 429.80m shares.

The index thus hit an all-time high for the fourth straight session. But declines outnumbered advances 254 to 341, with 144 issues unchanged.

The sizeable decline in the M1 measure of the U.S. money supply for the latest reporting week, combined with President Ronald Reagan's announcement of his intention to run for re-election, touched off expectations of a rally on Wall Street later yesterday. As a result, active buying of blue chips carried over from last week.

Among notable gainers was Sony, which had been out of investor favour because of a slack performance in its video cassette recorder division. Sony advanced Y250 at one stage and ended Y200 higher at Y4,000, regaining the Y4,000 level for the first time since November 1982.

Matsushita Electric Industrial rose some Y170 to Y2,030 in early trading, but the profit-taking left a closing Y1,990, a gain of Y30. NEC added Y30 to Y1,540 and Canon Y20 to Y1,590.

Nissan Motor climbed Y24 to Y765 on reports, unconfirmed at the time, that it had decided to produce a small passenger car in Britain. Trading volume was small, however.

The market lost ground in the afternoon, discouraged by growing investor concern over a reactionary decline and

increased sales of blue-chip electricals for profits.

TDK jumped Y200 in morning transactions, but finished Y60 lower at Y6,840. Hitachi shed Y17 to Y881 and Pioneer Electronic Y60 to Y3,780.

Conversely, speculative issues drew interest, with Aoki Construction rising Y30 to Y810, Arabian Oil Y180 to Y5,280 and Denki Kagaku Kogyo Y21 to Y474.

The bond market remained lacklustre. Although some corporations with surplus funds bought long-term issues, other investors generally adopted a hands-off attitude.

The yield on the barometer 7.5 per cent government bonds, maturing in January 1983, remained unchanged from last week's close at 7.415 per cent.

## HONG KONG

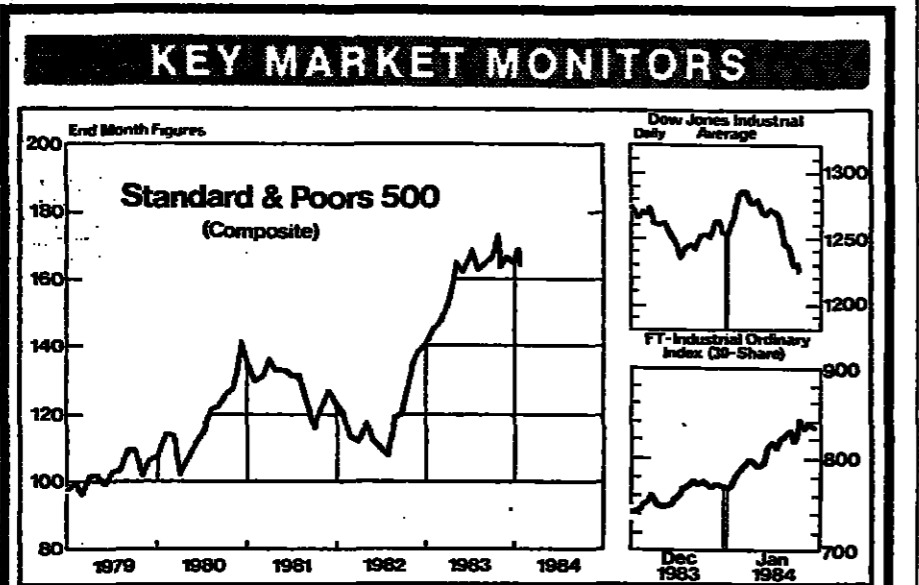
### THE STRONGEST showing so far this year followed one-point prime rate cuts by Hong Kong banks for the second successive Monday. The Hang Seng index soared 42.26 to a six-month high of 1,097.63, and dealers expected that resistance at the 1,100 level would be offset by a bullish view of the local property market expressed later by the colony's valuation commissioner.

Property-related issues fared well ahead of this: Cheung Kong put on 50 cents to HK\$9.95, Swire Properties 15 cents to HK\$6.70 and Hongkong Land 40 cents to HK\$4.30.

The rate cuts were adjudged no strain on the banks. Hongkong and Shanghai added 20 cents to HK\$8.80 and Hang Seng 50 cents to HK\$45.25.



### KEY MARKET MONITORS



STOCK MARKET INDICES			
	Jan 30	Previous	Year ago
<b>NEW YORK</b>			
DJ Industrials	1221.52	1230.00	1064.75
DJ Transport	552.18	567.16	460.37
DJ Utilities	132.71	132.66	123.62
S&P Composite	162.87	163.84	144.51
<b>LONDON</b>			
FT Ind Ord	832.20	839.50	622.70
FT-A All-share	504.11	504.73	395.02
FT-A 500	538.41	540.65	426.45
FT-A Ind	489.65	491.38	400.82
FT Gold mines	534.30	531.50	677.00
FT Govt secs	83.08	82.75	77.02
<b>TOKYO</b>			
Nikkei-Dow	10,235.73	10,180.85	8014.81
Tokyo SE	777.58	773.17	584.80
<b>AUSTRALIA</b>			
All Ord.	closed	765.70	536.60
Metals & Mins.	closed	517.30	489.20
<b>AUSTRIA</b>			
Credit Aktien	55.68	55.83	49.49
<b>BELGIUM</b>			
Belgian SE	147.76	147.74	104.92
<b>CANADA</b>			
Toronto Composite	2480.01	2504.30	2015.70
Montreal Industrials	429.41	433.60	343.77
Combined	416.12	418.80	331.62
<b>DENMARK</b>			
Copenhagen SE	220.55	221.43	103.91
<b>FRANCE</b>			
CAC Gen	172.00	170.10	104.40
Ind. Tendence	113.40	111.90	64.40
<b>WEST GERMANY</b>			
FAZ-Aktien	365.01	365.88	244.87
Commerzbank	1082.60	1082.20	744.00
<b>HONG KONG</b>			
Hang Seng	1097.63	1055.37	899.82
<b>ITALY</b>			
Banca Com. Ind.	223.07	219.55	182.49
<b>NETHERLANDS</b>			
ANP-CBS Gen	177.90	175.50	105.40
ANP-CBS Ind	146.30	144.40	90.50
<b>NORWAY</b>			
Osto SE	247.53	247.47	125.30
<b>SINGAPORE</b>			
Straits Times	1063.88	1051.57	773.99
<b>SOUTH AFRICA</b>			
Gold	808.20	808.00	1087.80
Industrials	865.10	865.10	816.40
<b>SPAIN</b>			
Madrid SE	closed	109.32	86.12
<b>SWEDEN</b>			
J & P	1560.39	1549.26	1023.70
<b>SWITZERLAND</b>			
Swiss Bank Ind	380.70	380.70	299.40
<b>WORLD</b>			
Capital Int'l	185.20	185.30	158.50
<b>GOLD (per ounce)</b>			
	Jan 30	Prev	Year ago
London	\$369.875	\$369.375	
Frankfurt	\$370.00	\$367.00	
Zurich	\$370.25	\$370.00	
Paris (basing)	\$369.88	\$369.86	
Luxembourg (basing)	\$369.00	\$368.45	
New York (Feb)	\$370.20	\$369.50	

## EUROPE

### Banks and insurers fare best

THE REFERENCE points for investors on the European bourses yesterday lay across the Atlantic - in the form of the Reagan candidacy and a \$2.7bn fall in M1 money supply - but ahead of Wall Street's own reaction a reluctance could be felt to commit any sizeable fresh funds.

A third U.S. influence, a weakening dollar as selling pressure developed out of New York, became clear only at or near the close. Nonetheless, earlier indications that no further severe inroads were being made on domestic currencies appeared to aid sentiment.

Banking and insurance issues in many centres underwent something of a reevaluation, providing a handful of the day's better gains.

Australian and New Zealand markets were closed for national holidays. The Madrid bourse observed its usual Monday closure.

### CURRENCIES

	Jan 30	Previous	Jan 30	Previous
(London)				
\$	-	-	1.4080	1.4035
DM	2.8110	2.8230	3.98	3.9625
Yen	234.55	234.25	330.50	329
FFr	8.5975	8.6250	12.1025	12.1025
SwFr	2.2410	2.2475	3.1575	3.1575
Guilder	3.1640	3.1780	4.4575	4.46
Lira	1713	1718.50	2411.50	2411
BPf	57.43	57.57	80.85	80.80
CS	1.248250	1.247750	1.7575	1.7515

### INTEREST RATES

Euro-currencies	Jan 30	Prev
(offer rate)		
\$	9 1/2	9 1/2
SwFr	3 1/2	3 1/2
DM	6	6
FFr	13 1/2	13 1/2
<b>FT London interbank fixing</b>		
(offer rate)		
3-month U.S.\$	9 1/2	9 1/2
6-month U.S.\$	10	10
U.S. Fed Funds	9 1/2	9 1/2
U.S. 3-month T-bills	9.30	9.40
U.S. 3-month T-bills	8.89	8.8650

### U.S. BONDS

Treasury	Jan 30	Prev	Yield	Price	Yield	Price
10% 1985	100 1/2	105.7	100 1/2	105.55		
11% 1991	101 1/2	115.3	101 1/2	114.49		
11.75 1993	100 1/2	116.3	100 1/2	115.90		
12 2013	102 1/2	117.3	102 1/2	116.89		
<b>Corporate</b>						
AT & T						
10% June 1990	93 1/2	118.0	93 1/2	118.80		
3% July 1990	68 1/2	10.75	68 1/2	10.75		
8% May 2000	75 1/2	12.20	75 1/2	12.20		
Xerox						
10% March 1993	92 1/2	12.00	92 1/2	12.00		
Diamond Shamrock						
10% May 1993	91 1/2	12.10	91 1/2	12.10		
Federated Dept Stores						
10% May 2013	86	12.40	86	12.40		
Abbot Lab						
11.80 Feb 2013	95 1/2	12.40	95 1/2	12.40		
Alcoa						
12% Dec 2012	96	12.80	96	12.80		

### FINANCIAL FUTURES

CHICAGO	Latest	High	Low	Prev
U.S. Treasury Bonds (CBT)				
70-29	71-10	70-28	71-04	
<b>U.S. Treasury Bills (TMM)</b>				
\$1m points of 100%				
March	91.05	91.12	91.04	91.05
<b>Certificates of Deposit (CMT)</b>				
\$1m points of 100%				
March	90.44	90.52	89.05	90.43
<b>LONDON</b>				
Three-month Eurodollar				
\$1m points of 100%				
March	90.30	90.32	90.27	90.22
<b>20-year National GB</b>				
\$50,000 30nds of 100%				
March	109-06	109-08	108-18	109-10

### COMMODITIES

(London)	Jan 30	Prev
Silver (spot fixing)	\$89.05	\$78.50p
Copper (cash)	\$97.75	\$91.20
Coffee (Jan)	\$2068.00	\$2085.00
Oil (spot Arabian light)	\$28.65	\$28.65

## ECONOMIC COMMUNITY OF WEST AFRICAN STATES

### Ecovas Telecommunications Project

#### Intelcom 1 (phase B)

#### INVITATION TO TENDER

The executive secretariat of the Economic Community of West African States invites to international tender on 31st January, 1984, under its regional telecommunications project Intelcom 1, Phase B. Facilities to be provided under this invitation to tender are to be financed by the European Investment Bank.

This invitation to tender is for the supply, installation and commission of equipment for two microwave links consisting of the following:

Lot 1—Kaolack (Senegal)—Banjul (Gambia)—Cacheu (Guinea-Bissau)  
 Lot 2—Tambacounda (Senegal)—Mali (Guinea)

The invitation to tender is opened to at least contracting firms from the European Economic Community (EEC) and from the African, Caribbean and Pacific States (ACP) signatories of the second Lome convention.

Documents in English and French for Lot 1 and in French only for Lot 2 are available for inspection and may be obtained from the following addresses:

Ecovas Executive Secretariat  
 Department of Transport, Telecommunications and Energy,  
 6, King George V Road,  
 Lagos, Nigeria  
 Telex: 22633 Ecovas Ng

Ecovas Fund  
 Avenue Du 24 Janvier opposite Centre Culturel Francais  
 Lome, Togo  
 Telex: 5339 Cedeao To

British Telconsult  
 55, Old Broad Street,  
 London EC2M 1RX  
 United Kingdom  
 Telex: 887523

The payment of U.S.\$500.00 for the tender documents which will be available from 7th February, 1984, must be made by bank order in favour of Ecovas Fund.

Tender proposals in English and French should be sent to Ecovas Fund, P.O. Box 2704, Lome, Togo, to arrive at the latest by 4th June, 1984, at 11.00 hours (local time) or delivered in person at the headquarters of the Ecovas Fund

Tenders will be opened in public on 5th June, 1984, in Lome, Togo, at the headquarters of the Ecovas Fund.

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of stock closing prices with columns for 12 Month High/Low, Stock, Div, Yld, P/E, 52 Week High, and Price Change.

Continuation of stock closing prices table, listing various financial and utility stocks.

Continued on Page 27

Kidder, Peabody Securities Limited

Market Makers in Euro-Securities

An affiliate of Kidder, Peabody & Co. Incorporated 1865

New York • London • Paris • Geneva • Zurich • Hong Kong • Tokyo

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AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of American stock exchange closing prices, organized in columns by stock symbol and name, including price, volume, and change.

Continued on Page 28

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of New York stock exchange closing prices, organized in columns by stock symbol and name, including price, volume, and change.

Continued on Page 28

Notes and footnotes explaining the data, including definitions of 'a-dividend', 'b-dividend', and 'c-dividend', and instructions for interpreting the table.

WORLD STOCK MARKETS

LONDON DEALING

Reform talks search for a rule book

THE LONDON Stock Exchange ruling council will today discuss the type of dealing which will be allowed under the new rules aimed at liberalising trading in overseas securities, writes John Moore in London.

exchange from the effects of restrictive practices legislation.

As a first stage in the dismantling of minimum commissions, the stock exchange council has decided to introduce negotiated rates of commission on overseas securities.

In a series of changes on dealings in overseas securities, the stock exchange council has said that member firms of the exchange will be permitted to form subsidiary companies called "international dealers".

Consortiums of broking firms and jobbing firms together may control an international dealership.

Following amendments to last December's rules, the stock exchange is clarifying the form of trading that may take place on overseas securities.

Bigwood Bishop, the stockjobber or market maker, has held talks with a number of parties with a view to forming a commercial link. No deal has yet been finalised and the firm said yesterday that it was considering "a number of alternatives."

EUROPE

Continued from Page 25

Paris, with advances outnumbering declines two to one. Elf-Aquitaine added Ffr 8 to Ffr 210 but Moët-Hennessy slipped Ffr 22 to Ffr 1,400 as each provided trading results and forecasts. Peugeot strengthened Ffr 14 to Ffr 257.

The focus of a steady Brussels day came after the close, when Petrofina announced improved profits and dividend along with a one-for-10 scrip. Ahead of this it put on Bfr 20 to Bfr 6,900, while movements elsewhere in the market included a Bfr 130 gain for UCB in chemicals at Bfr 5,450 and a Bfr 70 dip by Vieille Montagne to Bfr 4,360.

A healthy earnings trend among Stockholm banks brought gains of Skr 4 for Handelsbanken at Skr 236 and Skr 3 in SE-Banken at Skr 329 as the bourse had another strong and active day.

Volvo stood out with a rise of Skr 10 to Skr 490 on last week's results, and Pharmacia reversed setbacks of recent days to rally Skr 6 at Skr 316.

Copenhagen suffered from the Danish parliamentary impasse, but Oslo held steady.

CANADA

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes AMCO Inc, Alcan, Agrium, etc.

DENMARK

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes Aarhus, Arden, Balle, etc.

NETHERLANDS

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ADF Holding, Aegion, Akzo, etc.

AUSTRALIA

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ANZ Corp, Arco Aust, Ampol Pet, etc.

JAPAN (continued)

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes Konishiroku, Kumagai, Kyocera, etc.

AMERICAN STOCK EXCHANGE CLOSING PRICES

Large table of American stock closing prices with columns for 12 Month High/Low, Stock, Div. Yld., P/E, etc.

NEW YORK CLOSING PRICES

Large table of New York closing prices with columns for 12 Month High/Low, Stock, Div. Yld., P/E, etc.

GERMANY

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes AEG-Tele, Alcatel, Allianz, etc.

SWEDEN

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes Alfa-Laval, ASEA, Atlas Copco, etc.

ITALY

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes Banca Com, Bastogi-IRIS, Breda, etc.

NETHERLANDS

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes Alkermes, Alkermes, Alkermes, etc.

NETHERLANDS

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ANP-OBG, ANP-OBG, ANP-OBG, etc.

NETHERLANDS

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ANP-OBG, ANP-OBG, ANP-OBG, etc.

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Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ANP-OBG, ANP-OBG, ANP-OBG, etc.

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NETHERLANDS

Table with columns: Stock, Jan 30, Price, +/-, etc. Includes ANP-OBG, ANP-OBG, ANP-OBG, etc.

Follow the Leader

Do you want to reach the top international financial specialists in European industry? In mid 1982, the Financial Times, The Economist, and Euromoney commissioned Research Services Ltd. to conduct a study among these senior international financial specialists in order to discover what they read.

Table showing readership figures for various publications: FINANCIAL TIMES (42), FAZ (24), HANDELSBLATT (21), LE MONDE (11), LHT (9), etc.

Indices

Table of stock indices: NEW YORK DOW JONES, AUSTRALIA, BELGIUM/LUXEMBOURG, DENMARK, FRANCE, GERMANY, HONG KONG, ITALY, JAPAN, NETHERLANDS, NORWAY, SINGAPORE, SOUTH AFRICA, SWITZERLAND, U.K. ALL-ORDOVEX, U.S. DOLLAR INDEX.

STANDARD AND POORS

Table of Standard and Poors indices: Industrials, Consumer, etc.

B.Y.S.E. ALL COMMON

Table of B.Y.S.E. All Common indices: 1983-84, 1984-85.

MONTREAL

Table of Montreal indices: Industrials, Consumer, etc.

TORONTO

Table of Toronto indices: Industrials, Consumer, etc.

NETHERLANDS

Table of Netherland indices: Industrials, Consumer, etc.

NETHERLANDS

Table of Netherland indices: Industrials, Consumer, etc.

NETHERLANDS

Table of Netherland indices: Industrials, Consumer, etc.

NETHERLANDS

Table of Netherland indices: Industrials, Consumer, etc.

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LONDON STOCK EXCHANGE

MARKET REPORT

Equity leaders become unsettled late but session featured by speculative activity

Account Dealing Dates

\*First Declared Last Account Dealings Dates... Jan 26 Jan 27 Feb 9 Feb 10 Feb 23 Feb 24 Feb 25

A marked expansion in speculative activity highlighted yesterday's first session of a new fortnightly trading Account in London equity markets.

Reflecting the lack of institutional enterprise, top-name shares were unable to maintain an early extension of Friday's afternoon's strength.

Blue chip industrial which had recently attracted above-average support began to look tired, although little selling developed.

GCX, however, were unsettled throughout the session by thoughts that the Government White Paper on Defence could be announced ahead of schedule.

Phoenix down late A rising market of late on talk of a bid by Allianz Phoenix fell sharply after hours from an enhanced 43p to close 15 down on balance at 41p.

better at 540p. In Lloyds Brokers, Hog Robison, recently favoured on U.S. bid speculation, rose 7 more to 60p in response to an investment recommendation.

Merchant banks were highlighted by a fresh flurry of speculative activity in Minister Assets, as bid hopes strengthened the shares touched 139p before closing 10 up on balance at 134p.

Financial advertising agency Valin Pollen International staged a highly successful bid in the United Securities Market; placed at 110p, the shares opened at 140p and rose steadily to 166p before closing at 163p.

Speculative activity in House of Fraser was quickly resumed following its weekend Press suggestion that a U.S. offer would soon announce bid terms worth around 350p per share for the group; the shares, up 2p last to 285p, rose to 294p, after 285p, Lorbair also closed strongly and added a further 7p better at a new peak of 131p with buyers anticipating that the group would be merged.

Elsewhere, Mellins extended Friday's speculative gains with a fresh advance of 12 to 72p, while Allebone fared well at 35p, up 6. Cell Gen put on a Composite Insurances, Royals aimed to 33p after comment on the group's dividend potential, while GRE closed 7

FINANCIAL TIMES STOCK INDICES Table with columns: Jan 26, Jan 27, Jan 28, Jan 29, Jan 30, Jan 31, Year Ago

HIGHS AND LOWS S.E. ACTIVITY Table with columns: 1983/84, Since Closed, High, Low, Daily Change

ing, part of which was aroused by fears of competition following Nippon Electric's plans to build a UK plant for the manufacture of telecommunications and office automation equipment.

With the exception of Hawker, up 8 at 41p, after 42p, on a bid by 250p and Rank, which closed 9 higher at 23p, Press mentioned driving attention to J. Williams (Cardiff), which put a bid for 24p, and Friedland, Highgate and Job, a poor market of late, staged a smart revival at 22p, up 3p.

Good preliminary results and news of the maiden dividend payment lifted Television South 10 to 100p.

Institutional support was evident for Leases which touched 12p before closing 9 better at 30p. Among other Motor Components, Flight Refuelling attracted speculative demand in a thin market and rose 2p to

300p, while Abbey Panels put on 7 to 55p for a similar reason. Fleet Holdings continued firmly, hardening a penny more to 185p, with sentiment still underpinned by reports that Mr Robert Holmes a Court is trying to increase his shareholding, currently standing at around 6 per cent.

Selectively firm Properties featured Great Portland Estates, which attracted revived institutional interest and put on 5 to 152p. Land Securities firmed 5 to 276p and MEPC improved 6 to 320p following better-than-expected interim results, while Slough Estates gained 4 to 120p in the wake of its successful bids for Allnatt London and Guildhall Property.

A good business developed in Imperial Group, up 2 at 159p, as buyers showed increased interest ahead of the annual figures, scheduled for February 9.

Leading Oils took a breather following the excitement of the previous week. After opening a few pence higher anticipating further demand, quotations drifted back in the absence of fresh support, with the tone deteriorating quite noticeably in the late dealing on early Wall Street advice.

The uncertain performance of London equities failed to dampen enthusiasm for Traded Options which attracted 6,188 contracts - well above last week's daily average of 5,247. Imperial Group topped the list with 1,017 calls struck, 655 in the May 100's. Lorbair positions recorded 1,063 trades, 173 in the February 110 calls and 207 in the February 120 calls. GEN and British Petroleum attracted 834 and 401 calls respectively.

NEW HIGHS AND LOWS FOR 1983/84

Table listing new highs and lows for various stocks in 1983/84, including U.K.O. Int'l, Strong & Fisher, and others.

Gold quietly firm

Mining markets began the new Account on the same subdued note as they finished the last. This followed another unexciting

RECENT ISSUES

EQUITIES Table listing various stocks and their prices, including Associated Energy Services, Cable & Wireless, and others.

FIXED INTEREST STOCKS Table listing fixed interest stocks and their prices, including Allied Textile, Arden Elec, and others.

"RIGHTS" OFFERS Table listing rights offers and their prices, including Carlton Communications, East London, and others.

Renunciation date usually last day for dealing free of stamp duty. Figures based on prospectus estimates. Dividend paid or payable on part of capital cover based on dividend on full capital.

ACTIVE STOCKS Table listing active stocks and their prices, including British Overseas Airways, British Telecom, and others.

FRIDAY'S ACTIVE STOCKS Table listing Friday's active stocks and their prices, including U.K.O. Int'l, Strong & Fisher, and others.

RISES AND FALLS YESTERDAY Table listing rises and falls yesterday, including British Funds, Foreign Bonds, and others.

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

Table showing FT-Actuaries Share Indices for various equity groups and sub-sections as of Jan 30 1984.

FIXED INTEREST

Table showing Fixed Interest rates and yields for various maturities and types of securities.

EUROPEAN OPTIONS EXCHANGE

Table listing European Options Exchange data, including series, vol, bid, last, ask, and stock prices.

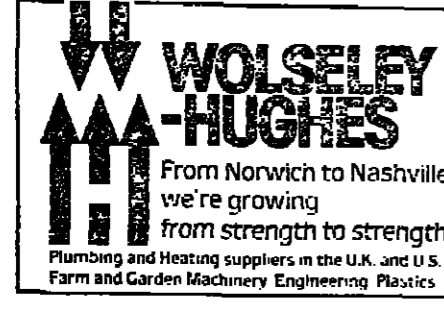
LONDON TRADED OPTIONS

Table listing London Traded Options data, including call and put options for various stocks and their prices.

HOTELS—Continued

Table of hotel stocks including names like Hilton Hotels, Holiday Inns, and various international hotel chains with their respective prices and changes.

FT LONDON SHARE INFORMATION SERVICE



From Norwich to Nashville we're growing from strength to strength. Plumbing and Heating suppliers in the U.K. and U.S. Farm and Garden Machinery Engineering Plastics

AMERICANS

Table of American stocks including Abbott Labs, Alcoa, Amgen, and various pharmaceutical and industrial companies.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of building industry stocks including Amec, Balfour Beatty, and various construction-related companies.

DRAPERY—Continued

Table of drapery stocks including various textile and clothing companies.

ENGINEERING—Continued

Table of engineering stocks including various mechanical and electrical engineering firms.

BRITISH FUNDS

Table of British funds including various investment vehicles like 'Shorts' and 'Five to Fifteen Years'.

CANADIANS

Table of Canadian stocks including various Canadian-based companies.

BANKS, H.P. AND LEASING

Table of bank and leasing stocks including various financial institutions.

ELECTRICALS

Table of electrical stocks including various electrical engineering and equipment companies.

FOOD, GROCERIES, ETC.

Table of food and grocery stocks including various food processing and retail companies.

INT. BANK AND O'SEAS GOVT. STERLING ISSUES

Table of international bank and overseas government sterling issues.

CORPORATION LOANS

Table of corporation loans including various financial instruments.

CHEMICALS, PLASTICS

Table of chemical and plastic stocks including various chemical companies.

DRAPERY AND STORES

Table of drapery and store stocks including various retail and clothing companies.

ENGINEERING

Table of engineering stocks including various engineering firms.

COMMONWEALTH AND AFRICAN LOANS

Table of commonwealth and African loans including various financial instruments.

BEERS, WINES AND SPIRITS

Table of beer, wine, and spirit stocks including various beverage companies.

LOANS

Table of various loans including building societies and public board loans.

FOREIGN BONDS & RAILS

Table of foreign bonds and rail stocks including various international investments.

HOTELS AND CATERERS

Table of hotel and caterer stocks including various food service companies.

Handwritten Arabic text at the bottom of the page.

INDUSTRIALS—Continued

Table of industrial stocks including companies like ICI, BP, and various engineering firms, with columns for stock price, dividends, and other financial metrics.

LEISURE—Continued

Table of leisure-related stocks such as B&O, GPO, and various entertainment companies, including their stock prices and financial data.

PROPERTY—Continued

Table of property and real estate stocks, including companies like British Land, and their respective market values and dividends.

INVESTMENT TRUSTS—Cont.

Table of investment trusts such as F&C, F&I, and various trust funds, detailing their assets and performance.

OIL AND GAS—Continued

Table of oil and gas stocks including BP, Shell, and other energy companies, with their stock prices and financial indicators.

NOMURA INTERNATIONAL LIMITED logo and contact information for New Era Investment and Underwriting.

MINES—continued

Table of mining stocks including Anglo-American, De Beers, and other mineral companies, with their stock prices and dividends.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks, including companies like Rover and various engineering firms.

Commercial Vehicles

Table of commercial vehicle stocks, including companies like Leyland and various truck manufacturers.

Components

Table of component stocks, including various parts and machinery manufacturers.

Garages and Distributors

Table of garage and distributor stocks, including companies like Halfords and various service providers.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks, including companies like News International and various media outlets.

PAPER, PRINTING ADVERTISING

Table of paper, printing, and advertising stocks, including companies like Newsprint and various media agencies.

SHIPPING

Table of shipping stocks, including companies like P&O and various maritime companies.

SHOES AND LEATHER

Table of shoes and leather stocks, including companies like Clarks and various footwear manufacturers.

SOUTH AFRICANS

Table of South African stocks, including companies like Anglo-American and various local firms.

TEXTILES

Table of textile stocks, including companies like J. & F. Wright and various fabric manufacturers.

TOBACCO

Table of tobacco stocks, including companies like British American Tobacco and various cigarette manufacturers.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks, including various investment and financial companies.

PROPERTY

Table of property stocks, including companies like British Land and various real estate firms.

INSURANCE

Table of insurance stocks, including companies like Lloyds and various insurance providers.

LEISURE

Table of leisure stocks, including companies like B&O and various entertainment firms.

FINANCE, LAND, ETC.

Table of finance, land, and other stocks, including various investment and financial companies.

PLANTATIONS

Table of plantation stocks, including companies like Guthrie & Co. and various agricultural firms.

OVERSEAS TRADERS

Table of overseas trader stocks, including companies like Anglo-Siam and various international trading firms.

TEAS

Table of tea stocks, including companies like Anglo-Siam and various tea producers.

MINES

Table of mining stocks, including companies like Anglo-American and various mineral companies.

Central Rand

Table of Central Rand mining stocks, including companies like Anglo-American and various local firms.

Eastern Rand

Table of Eastern Rand mining stocks, including companies like Anglo-American and various local firms.

Far West Rand

Table of Far West Rand mining stocks, including companies like Anglo-American and various local firms.

O.F.S.

Table of O.F.S. stocks, including companies like Anglo-American and various other firms.

FINANCE

Table of finance stocks, including companies like Anglo-American and various financial firms.

OIL AND GAS

Table of oil and gas stocks, including companies like BP, Shell, and other energy firms.

Diamond and Platinum

Table of diamond and platinum stocks, including companies like Anglo-American and various mineral firms.

Central African

Table of Central African stocks, including companies like Anglo-American and various local firms.

Regional and Irish Stocks

Table of regional and Irish stocks, including companies like Anglo-American and various local firms.

Options

Table of options stocks, including companies like Anglo-American and various financial firms.

Recent Issues and Rights

Table of recent issues and rights stocks, including companies like Anglo-American and various financial firms.

Recent Issues and Rights

Table of recent issues and rights stocks, including companies like Anglo-American and various financial firms.

Recent Issues and Rights

Table of recent issues and rights stocks, including companies like Anglo-American and various financial firms.

AUTHORISED UNIT TRUSTS

Table listing various unit trusts such as Abbey Unit Trst. Mgrs. (a), 1-31 Paul's Churchyard ECAP, and others with their respective details and prices.

Table listing unit trusts under the heading 'British Equities Unit Trusts Ltd (a) (b)', including various equity-focused funds.

Table listing unit trusts under the heading 'Crown Unit Trust Services Ltd', including funds like Crown Life Unit Trust and others.

Table listing unit trusts under the heading 'Growth Unit Trust Mgrs. Ltd', including funds like Growth Unit Trust and others.

Table listing unit trusts under the heading 'Legal & General Unit Trst. Mgrs. Ltd', including funds like Legal & General Unit Trust and others.

Table listing unit trusts under the heading 'Lloyds Unit Trst. Mgrs. Ltd', including funds like Lloyds Unit Trust and others.

Table listing unit trusts under the heading 'Mandate Bank Group U.K. Mgrs. Ltd', including funds like Mandate Bank Group Unit Trust and others.

Table listing unit trusts under the heading 'Mandate Bank Group U.K. Mgrs. Ltd', including funds like Mandate Bank Group Unit Trust and others.

Table listing insurance companies and their policies, including Albany Life Assurance Co and others.

Table listing insurance companies and their policies, including Commercial Union Group and others.

Table listing insurance companies and their policies, including Crown Life Assurance Co and others.

Table listing insurance companies and their policies, including Friends' Provident Life Office and others.

Table listing insurance companies and their policies, including Friends' Provident Life Office and others.

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Table listing insurance companies and their policies, including Friends' Provident Life Office and others.

F.T. CROSSWORD PUZZLE No. 5,330. Includes puzzle grid and clues for Across and Down.

7 Eastern animals elicit a witty remark (7). 8 If you're at them, it's conflicting (5, 8). 9 Well, he never admits to so being (13).

25 Sailor going up to ship finds sea-fish (4). Solution to Puzzle No. 5,329.

Offshore & Overseas continued. Table listing international financial services and companies.

Money Market Trust Funds. Table listing various trust funds and their performance.

Money Market Bank Accounts. Table listing various bank accounts and their features.

Money Market Bank Accounts. Table listing various bank accounts and their features.

Money Market Bank Accounts. Table listing various bank accounts and their features.

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INSURANCE & OVERSEAS MANAGED FUNDS

Table listing various insurance and managed funds, including Black Horse Life Ass. Co. Ltd., British National Life Assurance Co. Ltd., and others, with columns for fund names and numerical values.

Table listing various insurance and managed funds, including Property Growth Assn. Co. Ltd., Standard Life Assurance Co., and others, with columns for fund names and numerical values.

Table listing various insurance and managed funds, including Bank of America International, Standard Life Assurance Co., and others, with columns for fund names and numerical values.

Table listing various insurance and managed funds, including Standard Life Assurance Co., Bank of America International, and others, with columns for fund names and numerical values.

Notes and additional information regarding the insurance and managed funds listed on the left side of the page.

Notes and additional information regarding the insurance and managed funds listed in the middle section of the page.

Notes and additional information regarding the insurance and managed funds listed in the right section of the page.

Notes and additional information regarding the insurance and managed funds listed at the bottom right of the page.

COMMODITIES AND AGRICULTURE

France curbs livestock entry

BY DAVID HULSEGO IN PARIS

THE French Government has cut by almost half the number of border posts at which cattle on the hoof and live pigs can be brought into France from EEC countries.

S. Africa maize crop fears

BY BERNARD SIMON IN JOHANNESBURG

SOUTH AFRICA faces a maize crop failure for the second consecutive year following a month of drought in the main growing areas.

Tea prices slip further at London auction

TEA PRICES eased further at London's weekly auction yesterday with the quality grades slipping by 25p to 315p a kilo, medium by 10p to 300p and low medium by 2p to 230p.

The quality price has now dipped 50p below the peak reached two weeks ago following a sustained upsurge accelerated by India's decision to suspend exports of the most popular blending grade.

The Indian Tea Association estimated yesterday that the ban will cost India 1.15bn rupees (£76m) in lost exports if it stays until the end of March. It was imposed on December 24 to reduce prices in the home market.

Ivory Coast faces reverse in timber trade

Peter Blackburn explains how Abidjan is tackling the threat to its forest resources

Isidoro Bianchi, president of the Timber Exporters' and Traders' Union, said nearly a third of the country's 100 timber companies might soon be forced to close.

Attempts to control logging have been frustrated by powerful economic and political interests.

Exports of tropical timber remain the most important in volume. They are crucial for the development of the local shipping industry and achievement of the 40 per cent quota in the new Unctad shipping code of conduct.

Crop report confusion leads to staff switch

By John Edwards

THE U.S. Department of Agriculture yesterday announced that it was replacing four key personnel in its crop reporting division following criticism of its estimates.

Mr William Kibler, administrator of the USDA statistical reporting service, said there would be a review of analysts and data used in preparing crop reports.

Guernsey suffers fall in share of UK tomato market

FINANCIAL TIMES REPORTER

GUERNSEY'S overall share of the UK tomato market fell to 8.5 per cent last season according to the annual report of the Guernsey Tomato Marketing Board.

realistic terms, the Dutch importers and exporters - for so long assiduously building up a major presence on the UK market with the advantages of their

The area of glasshouses under tomato cultivation will be around 200 acres this year, against 235 acres last year.

PRICE CHANGES

Table with columns for commodity names, current prices, and changes from previous periods.

BRITISH COMMODITY PRICES

Table listing prices for various British commodities such as metals, oil, and grains.

AMERICAN MARKETS

Table showing prices for American commodities including metals, oil, and grains.

FINANCIAL TIMES

Table with multiple columns showing various market indices and prices.

LONDON OIL

Table showing oil prices in London, including Brent and WTI.

CRUDE OIL FUTURES

Table showing crude oil futures prices for various months.

SPOT PRICES

Table listing spot prices for various commodities.

GAS OIL FUTURES

Table showing gas oil futures prices.

GOLD MARKETS

Table showing gold market prices and movements.

LEAD

Table showing lead market prices.

LONDON FUTURES

Table showing various London futures prices.

ZINC

Table showing zinc market prices.

ALUMINIUM

Table showing aluminium market prices.

NICKEL

Table showing nickel market prices.

SOYABEAN MEAL

Table showing soyabean meal prices.

COFFEE

Table showing coffee market prices.

GRAINS

Table showing grain market prices.

WHEAT

Table showing wheat market prices.

BARLEY

Table showing barley market prices.

INDICES

Table showing various market indices.

REUTERS

Table showing Reuters market data.

MOODY'S

Table showing Moody's market data.

DOW JONES

Table showing Dow Jones market data.

SUGAR

Table showing sugar market prices.

EUROPEAN MARKETS

Table showing European market prices.

WOOL FUTURES

Table showing wool futures prices.

TEA AUCTIONS

Table showing tea auction results.

COTTON

Table showing cotton market prices.

CURRENCIES, MONEY and CAPITAL MARKETS

FOREIGN EXCHANGES

Dollar weak in thin trade

The dollar lost ground on the foreign exchanges yesterday, touching its lowest level since the opening of the New York market, but finishing in London above its worst levels. A fall of \$2.70 in U.S. M1 money supply announced last Friday was the main factor behind the dollar's decline, but at the same time the downward drift was limited by the better than expected December trade figures, also published Friday, and the decision of President Reagan to seek another term of office.

The pound was very thin however, particularly before U.S. traders entered the market, but the dollar's trend this week may be influenced by today's figures on U.S. leading indicators, which are expected to show only a small rise in the region of 0.5 per cent. Other significant events are the present meeting of the Federal Open Market Committee to set monetary policy for the month, tomorrow's announcement of the U.S. Treasury refunding package for February, and Friday's U.S. unemployment figures.

In very quiet trade the dollar fell to DM 2.5110 from DM 2.5230 against the D-mark, FF 165.25 against the French franc, and SwFr 2.2410 from SwFr 2.2475 in terms of the Swiss franc, but rose slightly to Y234.55 from Y234.25 against the Japanese yen.

The French franc at DM 32.68 per FF 100, the Dutch guilder was a little easier at DM 88.900 per f1 100 from DM 88.940 but the Danish krone and Italian lira were both firmer at DM 27.585 per Dkr 100 and DM 1.6410 per L100 respectively from DM 27.58 and DM 1.6400.

FINANCIAL FUTURES

Eurodollars firm

Euro-dollar prices improved in the London International Financial Futures Exchange yesterday. Sentiment was influenced by a steady Federal funds rate and better-than-expected U.S. money supply figures announced on Friday, President Reagan's decision to stand for re-election was also an influence. These factors together proved to be mildly bullish and after an early unsuccessful attempt to push values lower as U.S. markets opened, prices finished close to the day's high.

Recent statistics may have suggested. The March Euro-dollar price opened at 90.27 up from 89.23 and touched a best level of 90.32 before finishing at 90.30. Gilt prices improved in early trading, helped by sterling's steeper performance and a stronger cash market. There was little movement during the afternoon apart from a brief attempt to push values lower. The March price opened at 109.18 up from Friday's close of 109.10 and touched a best level of 109.08 before finishing at 109.06.

EMS EUROPEAN CURRENCY UNIT RATES

Table with columns: Currency, ECU amount, % change from 1983-84, % change from 1982-83, Divergence limit %.

£ in New York (latest)

Table with columns: Date, Prev. close, Spot, 1 month, 3 months, 6 months, 12 months.

THE POUND SPOT AND FORWARD

Table with columns: Jan 30, Day's spread, Close, One month, % Three months, % Six months, % Twelve months.

THE DOLLAR SPOT AND FORWARD

Table with columns: Jan 30, Day's spread, Close, One month, % Three months, % Six months, % Twelve months.

OTHER CURRENCIES

Table with columns: Currency, Jan 30, £, \$, Note rates.

CURRENCY MOVEMENTS

Table with columns: Currency, Jan 27, Bank of England, Morgan Guaranty, Index, Change.

CURRENCY RATES

Table with columns: Currency, Jan 30, Bank of England, Morgan Guaranty, Index, Change.

EXCHANGE CROSS RATES

Table with columns: Jan 30, Pound Sterling, U.S. Dollar, Deutsche Mk, Japanese Yen, French Franc, Swiss Franc, Dutch Guilder, Italian Lira, Canadian Dollar, Belgian Franc 100.

EURO-CURRENCY INTEREST RATES (Market closing rates)

Table with columns: Jan 30, Sterling, U.S. Dollar, Canadian Dollar, Dutch Guilder, Swiss Franc, D-mark, French Franc, Italian Lira, Belgian Franc, Danish Kroner.

MONEY MARKETS

Table with columns: Jan 30, Overnight, 8 days notice, 1 month, 3 months, 6 months, 12 months.

London rates steady

Short-term interest rates were little changed on the London money market yesterday. Three-month sterling interbank was steady at 8 1/2 per cent, but discount houses buying rates eased to 8 1/4 per cent from 8 1/2 per cent.

MONEY RATES

Table with columns: Jan 30, Frankfurt, Paris, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin.

LONDON MONEY RATES

Table with columns: Jan 30, Sterling, Local Authority deposits, Interbank deposits, Finance House deposits, SDR Linked deposits, ECU Linked deposits.

FT LONDON INTERBANK FIXING

Table with columns: LONDON INTERBANK FIXING, 11.00 a.m. January 30, 3 months U.S. dollars, 6 months U.S. dollars, 12 months U.S. dollars.

DISCOUNT HOUSES DEPOSIT AND BILL RATES

Table with columns: Jan 30, Sterling, Local Authority deposits, Finance House deposits, SDR Linked deposits, ECU Linked deposits.

MONEY RATES

Table with columns: New York (Lunchtime), Prime rate, Fed funds rate, Fed funds at intervention, Treasury Bills, Treasury Bonds.

WORLD VALUE OF THE POUND

The table below gives the latest available rate of exchange for the pound against various currencies at the end of last week. In some cases rates are based on the average of buying and selling rates.

Large table with columns: PLACE AND LOCAL UNIT, VALUE OF £ STERLING, PLACE AND LOCAL UNIT, VALUE OF £ STERLING.

Drexel Burnham Lambert Government Securities Inc. Market makers in U.S. Treasury Bills, Notes and Bonds. Contact Vincent Verterano at (01) 588-6371.

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\* Rate is the transfer market (controlling). † If none one official rate. (U) Unified rate. Applicable on all transactions except countries having a bilateral agreement with Egypt and who are not members of IMF. (2) Based on gross rates against Roubles. (3) Non-essential imports and private sector applicants. (4) Preferential rate for public sector debt and essential imports. (5) Government controlled for non-essential imports. (6) Free rate for luxury imports, remittances of money abroad and foreign travel. (7) Parallel rate. (8) Selling rate.

INTERNATIONAL CAPITAL MARKETS

GOVERNMENT GUARANTEED BONDS TO RAISE Y603BN

Japan to lift foreign borrowing

BY YOKO SHIBATA IN TOKYO

JAPAN has decided to sharply increase the amount of overseas borrowing in the form of government guaranteed bonds by state departments, companies and agencies.

The ministry and the Japan Development Bank are currently preparing to issue US\$100m worth of government guaranteed bonds in New York before the end of March to help the flow of dollar funds into Japan so as to boost the yen against the US currency.

Japanese underwriting securities companies, criteria for issuers new to the market are to be eased to allow issues by foreign governments and agencies rated AA, instead of AAA by the private Japanese Bond Research Institute.

The ministry has also been concerned that relaxation of the rules would prompt an outflow of funds from Japan - meaning a further weakening of the yen. In view of the severe criticism of the closed nature of the Japanese capital market, the ministry and the underwriting securities companies have now decided to relax the Samurai bond flotation rules.

Turkish Euroloan progresses

By Peter Montagnon, Euromarkets Correspondent

MANUFACTURERS Hanover is to co-ordinate the loan of at least \$300m being sought by Turkey to help cover its external financing needs for this year.

Active primary market nears \$300m

BY MARY ANN SIEGHART IN LONDON

DESPITE a conspicuous lack of retail interest in the Eurodollar bond secondary market, new issue activity yesterday was strong with nearly \$300m of bonds being launched.

Industrial Bank of Japan launched a \$125m, five-year bond which carries an 11% per cent coupon at par. IBI International is leading the deal with S.G. Warburg, Morgan Guaranty and Morgan Stanley.

Salomon Brothers announced a novel deal yesterday, based on a technique already widely used in the U.S. domestic market. It is issued by Commerzbank with Credit Suisse First Boston and Orion Royal Bank.

Initial response to the new loan has been positive. Turkey is now benefiting from its rarity value in the Eurocredit market, which has offered only limited new lending opportunities this year.

Austrian terms confirm drop in margins

By Our Euromarkets Correspondent

FURTHER EVIDENCE of downward pressure on margins for top quality borrowers in the Eurocredit market has come with a \$100m, eight-year credit for Austria.

E-SYSTEMS, INC. (Incorporated with limited liability under the laws of the State of Delaware, United States of America) Issued, and reserved for issue at 13th December 1983 50,000,000 Common Shares of U.S. \$1.00 par value 32,605,058

FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. The following are closing prices for January 30.

Table with columns: U.S. DOLLAR, EURO CURRENCY, FT STRAIGHTS, etc. Includes bond names, amounts, yields, and prices.

NOTICE OF REDEMPTION TO THE HOLDERS OF TRIBUNE COMPANY OVERSEAS FINANCE N.V. 14% Guaranteed Notes Due March 1, 1986

Baxter Technologies Corporation \$10,000,000 (Cdn.) 4,000,000 Units Each Unit consists of one Common Share and one Common Share Purchase Warrant (1984). Price: \$2.50 per Unit

City Investing Company US \$50,000,000 City Investing Finance N.V. Guaranteed Floating Rate Notes due 1986

BARCLAYS International Barclays Overseas Investment Co. BV U.S. \$200,000,000 Guaranteed Floating Rate Notes 1995 convertible until January 1988 into 9 1/4% Guaranteed Bonds 1995.

NOTICE TO HOLDERS OF A/S EKSPORTFINANS (Foreningsbankens Finansierings- og Eksportkreditinstitut) U.S. \$50,000,000 11 1/2% Notes Due 1987

Notice to Holders of A/S EKSPORTFINANS (Foreningsbankens Finansierings- og Eksportkreditinstitut) U.S. \$50,000,000 11 1/2% Notes Due 1987

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OND SERVICE

# DRAX Power Station

Phase two, costing £1bn, is being built within budget. With phase one, it will provide the biggest coal-fired station in Europe by 1986. The CEGB's tough management has brought results which are widely admired

By NICK GARNETT

THE FIRST generating unit in the £1bn second phase of the Drax Power Station construction project was recently synchronised with the national power grid—a significant demonstration by the Central Electricity Generating Board, the construction industry and its unions that they could build to time, and within budget.

If the third and final unit is completed on schedule in two years' time, they will have secured a build performance for a power station which could not be attained 10 years ago.

The 2,000 Megawatts of the second phase of Drax, whose construction began in 1978, will complement the similar generating capacity of the first phase of Drax, completed 10 years ago, providing the generating board with the biggest coal-fired station in Western Europe.

The second phase of Drax has been built so far to time and cost as a result of a construction programme free of the stoppages, delays and cost overruns which characterised much of power station building and other large project construction in the 1970s.

The basis of this has been a much tougher attitude towards control of the project by the CEGB as client-owner. It has insisted in negotiations on a return to lump sum in place of cost reimbursable contracts, on the introduction of a structure for harmonising pay and

conditions, and on double day shift working. On top of this the 1981 national agreement for the mechanical engineering sector has created a new framework within which major developments can take place.

Some engineers say the build performance has been as good as that achieved anywhere in Europe, but it remains to be seen whether this represents a decisive and permanent leap forward in the industry's ability to undertake major projects or, possibly, only the temporary influence exerted by recession on trade union power.

### Complicated

It also raises the question whether the factors which have contributed to the performance at Drax can be translated to the construction of the Sizewell B nuclear pressurised water reactor station, the public inquiry into which is now in its second year.

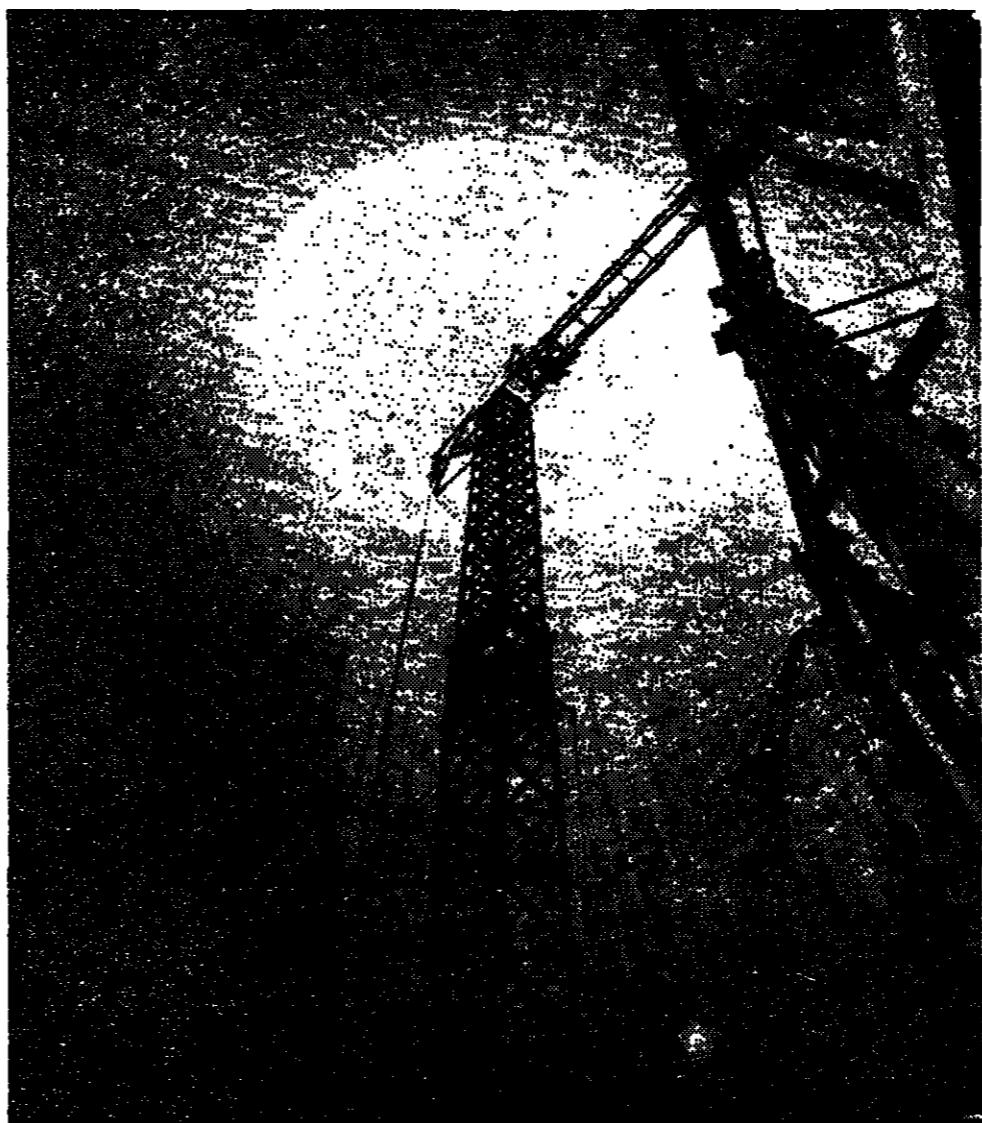
Project management for that power station, if it is given the go-ahead could be a more complicated and controversial issue, and has yet to be agreed by the Government. The generating board and the National Nuclear Corporation, however, have come to an agreement on broad aspects of project management. The board says many of the features and lessons learnt at Drax and at the Heysham Two nuclear station—where many of the Drax-style control tools

are also in use—could be a management model for Sizewell. The second phase of Drax began in controversy. Drax A was started in 1966 and completed just as the first oil shock of the early 1970s was causing major downward revisions in energy demand. This resulted in a generating board decision not to contemplate building a new station until the end of the decade.

The Labour Government of Mr James Callaghan was under pressure, however, to throw a lifeline to the UK's hard-pressed plant manufacturing industry, particularly in the north-east and Scotland. Eventually, the generating board was persuaded by the then Energy Secretary, Mr Tony Benn, to go ahead with the second phase of Drax, at least 18 months early, in return for which the Government paid the board £50m compensation for additional interest charges incurred in bringing the project forward.

In terms of energy demand the second phase of Drax is still not needed. The CEGB's total generating capacity is 54.8 Gigawatts (54,800 Megawatts) as against the maximum simultaneous demand last year of 42 Gigawatts. Much of the board's very expensive to run oil-fired capacity is used solely for topping up the system.

The board says, though, that Drax, which alone will be able to meet almost 10 per cent of national demand, when completed, is an important element



ONE OF THE HUGE COOLING TOWERS NEARS COMPLETION

in its ability to shut down much less cost effective capacity.

The thermal efficiency of both parts of Drax together will be about 37.5 per cent which compares with a level of only 29 per cent achieved by some of the worst stations. The last three of Drax's six generating units will save around £55m a year in generating costs when compared with the least efficient stations, according to the CEGB.

### Prime centre

When completed, the Drax twins will consume 10m tonnes of coal a year, which, at cur-

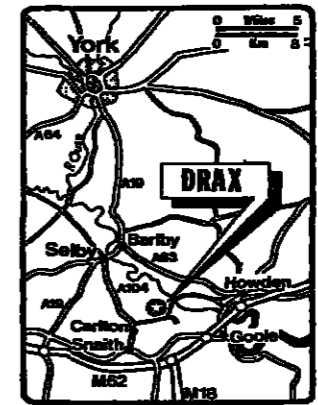
rent costs, is worth £410m to the National Coal Board. The second phase is also utilising a construction workforce of 3,000, two-thirds of whom live permanently in the Yorkshire-Humberside area.

Britain's prime centre of power generation accounting for one-fifth of electricity output. The whole of Drax, which has a common control room (though the two plants can be run separately) will employ 1,100 to operate it. And, as with all such projects, Drax final phase is a shop window for British contractors.

This is now even more the case because the generating board, the unions and the contractors can point to it as a powerful achievement so far in cooperation and productivity.

Between the project start in 1978 and November last year, just 1.34 per cent of man hours were lost as a result of disputes, many of them from the TUC day of action.

It has also taken just 54 months to complete the first of the three 660 Mw units in Drax phase two. Drax A, whose problems included a nine-month strike, took 80 months to plant the same ground and the build performance for some other



Editorial production: Michael Strutt

Pictures by Hugh Routledge

stations has been 70 to 80 months. The final phase of Drax has returned build performance to that being achieved in the 1960s.

The delays and cost overruns which plagued much of power station and other big project construction during the 1970s were due to a lack of management control and a whole series of union-management and inter-union rows. These achieved their most public notoriety during the Isle of Grain loggers' dispute but similar friction has been virtually absent during Drax.

### Source

It has, nevertheless, suffered problems. It endured an eight-week strike during foundation works. A change in the source of coal, bringing in supplies with a much greater ash content than was planned for, resulted in late design alterations to hoppers. These and other difficulties caused the project to fall 26 weeks behind schedule at one point but that was clawed back.

Project management has also been assisted by the generating board's decision to duplicate Drax A as far as possible. This could not be fully achieved, partly because of plant measurement changes resulting from metrication and alterations in plant design since Drax A was built.

Project management control tools and labour relations are

CONTENTS	
Managing the project	II
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The UK's power needs	III
The contractors	III
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Profile: Jack Elston, project manager	VI

the two most important features of Drax construction. The structure devised within the CEGB followed the findings of a business Round Table study into the U.S. construction industry which has also suffered severe problems.

The structure is encapsulated in a report by Mr Denis Lomer, former executive board member of the CEGB, and entitled, "Will Drax give back to the construction industry its credibility on large projects?" Mr John Baldwin, general secretary of the construction section of the Amalgamated Union of Engineering Workers, and a main backer of the 1981 national agreement for mechanical engineering, has no doubts. "We've drastically changed the industry around." Others in the trade union movement are more doubtful. Mr George Henderson, national construction secretary of the Transport and General Workers Union, believes that many of the positive changes in the industry will not be permanent.

For the generating board's construction division, Mr John Collier, its director-general, argues that the performance at Drax and Heysham Two will stand the board and the construction industry in good stead when the recession ends. He hopes orderly labour relations will be maintained.

## The team that did it for Drax can do it for you

At 17.20 hrs on December 3rd 1983 the first of three 660 megawatt generating units at the Drax Power Station Completion project in North Yorkshire supplied power for the first time to the National Grid.

Today, January 31st 1984—fifty-six months into an eighty month construction programme—the project is on time and within its planned cost.

By the time it is completed in 1986 it will have cost more than £1000 million and together with the first half of the station, completed in 1975, Drax will be capable of supplying a quarter of the electrical needs of the whole of the North East of England.

It will burn 35,000 tonnes of coal every day providing jobs for more than 20,000 miners for the length of its operational life.

Pulling together a job like this calls for a lot of experience. That experience is available on a consultancy basis.

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Generation Development and  
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Central Electricity Generating Board,  
Barnett Way, Barnwood,  
Gloucester, GL4 7RS  
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The custom-built complex at Barnwood houses one of the most experienced power station design and construction teams in Western Europe with access to the vast research and operations experience of the CEGB.

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planning, project management, budget control, civil engineering, mechanical, electrical and nuclear engineering, control and instrumentation.

## DRAX II

# Construction has proceeded smoothly thanks to close monitoring by the CEGB Builders meet time and cost targets

UNDERPINNING THE construction of the second phase of Drax is a return to traditional lump sum supply and erection contracts—also used in Drax Phase I—in place of the cost-reimbursable contract which became prevalent in the 1970s and which contributed to the disastrous construction performance of the Isle of Grain and Ince power stations.

Reimbursable contracts, recommended in the Wilson Committee and Large Sites reports of 1969-70, effectively heap all the risk on the owner-client, and remove incentives from contractors and the workforce to keep the project on programme.

The paper written by Mr Denis Lomer, former CEGB board member, setting out the structure on which construction organisation has been arranged, makes it clear that problems of cost-reimbursable contracts are severely aggravated when the client is reluctant to exercise a strong role with contractors and through their workforces.

This is particularly so during periods of high inflation, rocketing wage demands and growing shop steward power.

None of the 11 main supply and erect contracts and 30 other principal contracts for the second phase of Drax was cost-reimbursable. They were all lump sum contracts with price adjustment mechanisms or fixed price for short contracts.

Within this framework, Design Phase Contracts have been used. One of the biggest drags on construction performance is plant design changes during manufacture and erection. Design phase contracts which run for 18 months and are largely used on boiler and turbine work, require contractors to do virtually all design work before manufacture.

They must also provide a range of information during the design phase which is needed by the board and other contractors to undertake design of buildings and other equipment. Such information includes size, weight and shape of equipment, dynamic forces on the foundations and the power, water and electricity requirements to drive plant.

THE MOST pronounced achievement in the construction of the second phase of Drax is that so far it has been built to time and cost. A whole series of factors have contributed, based on the CEGB's working relationships with contractors and the organisational system used to control them and tight local and national working agree-

ments with the unions. These have been geared to producing optimum performance from companies involved in the Drax construction, stable industrial relations and efficient patterns of working. Underlying all this has been the difficult economic climate and the background pressure of massive unemployment among con-

struction workers which has weakened union power and dampened militancy. Many of these features are interlinked, but it is possible to isolate these factors which apply directly to the generating board's dealings with contractors and between contractors themselves and those which relate to the role of unions and the workforce.

contractors' activities at works and site which we had never enjoyed before," says Mr Elston.

The usual method of penalising construction delays is the application of damages for delayed completion. The problem with this is that it is restricted to the end of a contract. The Generating Board therefore examined ways of making "penalties" or the threat of them, effective during all stages of a contract, including plant manufacturing.

As a result, a key date procedure has been applied on major plant contracts. At regular intervals, usually every six months or so, the generating board and each contractor review how much work that contractor has achieved as against its target.

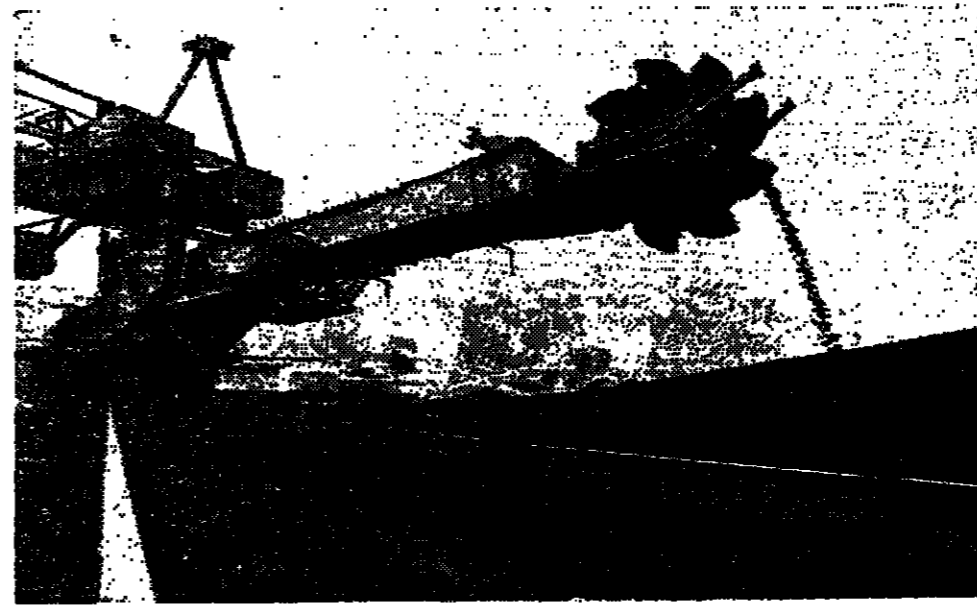
### Stage payment

The contractor gets paid only for the work it has done but the Generating Board has also the right to withhold a stage payment—that is the monthly payment due at that time—until the contractor gets back on programme if it has slipped behind. The contractor gets paid in full when the cash flow is hit.

Because senior contractor management becomes aware of unsatisfactory progress through cash flow problems caused by the withholding of payments, remedial measures can be taken by contractors when they are most effective.

Work on build programmes is very detailed. A good example is boiler construction and installation. This, as with most other build programmes is reflected in an "S" curve progression rate, with boiler construction divided into packages of work which are divided into further sub-packages. The work programme is agreed between contractor and the CEGB and fed into a computer but this is then used to calculate—to three decimal places—the actual rate of completion.

Nick Garnett



This mammoth coal-handling machine is in keeping with the size of the project

In this respect, of course, the second phase of Drax has been greatly assisted by following on from the first phase which uses very similar design and equipment. Before all this, however, the Generating Board carried out what is called a vendor assessment much deeper than it has done for previous construction projects.

This involves the visits of Generating Board employees to potential contractors to carry out a capability audit before they are included on tender lists. The assessment looks at such factors as a company's finances, managerial competence, quality and design record

and manufacturing capacity. Mr Jack Elston, the Drax manager, says the assessment also includes labour relations of prospective tenderers, their strike record and when their next wage agreement is due.

After the design phase contracts were completed, the generation development and construction division produced a status report. This was reviewed with full-time members of the CEGB board to assess risks to programme and budget.

Apart from monthly reviews by division directors, and further reports every three months, a very detailed status

report is prepared every year and discussed with the CEGB executive. These reports, drawn up by Mr Elston, cover such issues as failures and successes, the placing of contracts and the future programme. Any identified risks to the programme are linked to action proposed or being undertaken to minimise that risk. A crucial element has been key date procedures which were not used during Phase I of Drax. "The introduction of the key date procedure gave us a degree of control over the

The workforce has proved highly co-operative

## High productivity score

THE SECOND phase of Drax has demonstrated remarkably good labour relations and shift patterns which have broken new ground for power station construction. The civil engineering operation suffered a two-month strike in 1979, spearheaded by the shop steward credentials of one man, but overall the hours lost through labour disputes have been very small. Last year, for example, they totalled less than 1 per cent of hours worked.

The CEGB's construction division has begun to detect faint signs of the labour rumbblings which frequently occur towards the end of a building programme but says it is determined to keep the lid on them.

Three principal factors have contributed to this unusually high productivity record. These are double day-shift working among the mechanical and electrical trades; the use of what are termed the Management Group, the Study Group and the much more familiar Project Joint Council (PJC); and the 1981 national agreement for the engineering construction industry.

Underlying all this however has been the willingness of unions and their representatives, the contractors and the CEGB to spend a great deal of time on the labour relations groundwork for the entire Drax project. "At every level people are relating to each other," says Mr George Henderson, Transport and General Workers Union national secretary for construction. "The

general feeling is that they are all part of a team."

The generating board initially did not envisage the use of double day-shifts for the mechanical and the electrical trades in such a group though it is doubtful whether agreement could have been reached in any case.

The problem with normal Monday to Friday and then Sunday working with overtime is that it is expensive on overtime payments, that overtime is too tiring for individuals who have already put in a 39-hour week or eight-hour day and that high absenteeism is a feature of Sunday working. Double day-shifts means faster construction.

### Twin lure

It took six months of negotiations with the mechanical and electrical trades before the twin lure being more jobs than under the normal overtime system and a shift premium. It adds about 500 extra workers to the labour force but total manhours worked are about the same as under the traditional system using overtime.

The mechanical trade shifts are 6 am to 2.30 pm five days a week and 3 pm to midnight, four nights a week, with people changing shifts every two weeks. The shift premium is 20 per cent of the basic rate for morning shifts and 30 per cent for the evening shift.

Of the mechanical sector, 87 per cent of the workforce work shifts and 64 per cent of the electrical trades. A very small percentage of the civil engineering work is done in shifts, giving a total of 68 per cent of all employees on site doing shift work.

One of the most crucial tools for controlling Drax construction has been the Management Group. This is almost like a federal body made up of representatives of all the main contractors and employers' Federations with Mr Ron Burbridge, director of projects for the CEGB's construction division, acting as chairman Mr Elston refers to the role of the generating board in this grouping as that of a "benign dictator".

The Management Group sets up the policies and procedures which are geared to harmonising site employment, conditions and pay, enabling contractors from different industrial sectors to manage their own labour forces in a comparable manner.

All site contractors are required to participate in the group, the small contractors having their role represented by Mr Elston, Mr Maurice Brunton, site manager, presents overall site reports to the group meeting, and once a collective decision has been taken, all contractors must abide by it.

By making common employment policies, the main aim of the group are to remove friction between trades and the separate workforces, prevent pay leapfrogging, and secure acceptable productivity. One result is that skilled workers in different groups earn within plus or minus 10 per cent of about £200 a week.

The group effectively lays down rates of pay, once the framework has been agreed with the unions, common working rules and dispute procedures. Every month it monitors total earnings, bonuses and overtime, and whether payments are being made for correct reasons. Employment changes contemplated by contractors and every dispute and proposals for settlement come before the group which can administer a severe rap on the knuckles though no financial penalty.

A working group goes through contractors' employment conditions with a fine tooth comb. "We are trying to avoid disaffection," says Mr Elston. Among the items included in employment harmonisation are pay, travel, the use of special clothing, and timing of tea breaks.

Examples of the problems dealt with by the group included a tank erection company which was proposing a payment unacceptable to the group, companies outside the engineering employers' federation whose bonus payments needed bringing into line and a coating company which was required to readjust its working practices. Mr Neville Simms, a director of Turbine Construction, says the group works well despite the odd burst of irritation on the part of some contractors. "People have accepted the responsibility for making it work."

The role of the management group dovetails into the National Agreement for the Engineering Construction Industry which overtook a site agreement which the CEGB had been working on. The National agreement, designed to rectify many of the problems which have beleaguered construction in the UK, sets out guidelines for earnings based on a cost factor and incentive table, and the basis for disciplinary procedures.

A Study Group, made up of contractors and national and local trade union representatives meeting every six months, is another unusual feature of Drax. This group reviews bonus schemes, demarcation and other problems and their possible solutions.

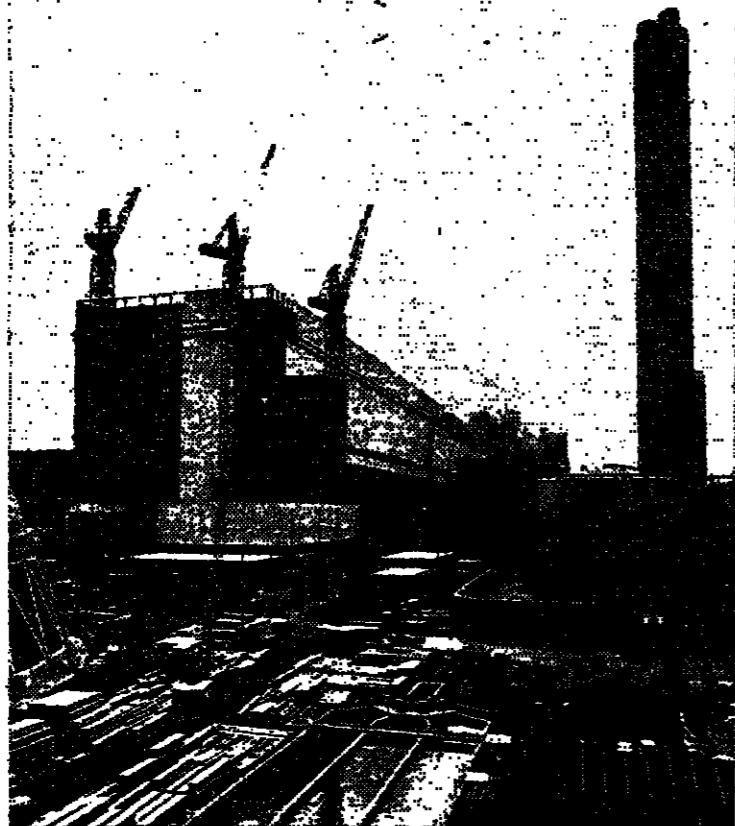
At the same time, Drax, as with other multi-contractor projects, has a Project Joint Council (PJC) which applies national agreements and arranges a Supplementary Project Agreement. The PJC is made up of equal numbers of management representatives and union officials with shop stewards.

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# Drax: completion stage turbine-generators ahead of schedule

The first stage at DRAX generates 1980MW of electrical power.

This 2½ million hp is the output of three NEI Parsons 660MW turbine-generators — the first machines of this rating to come into full load operation in the UK.

DRAX completion stage is also being equipped with three NEI Parsons 660MW machines — the first of which was recently synchronised one month ahead of schedule.

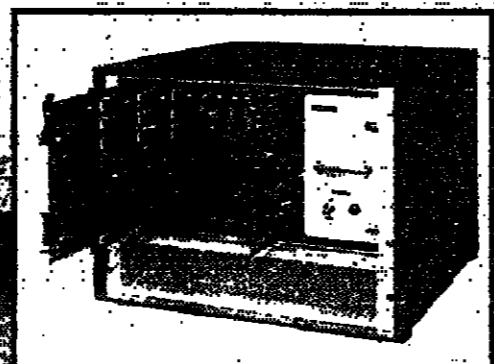


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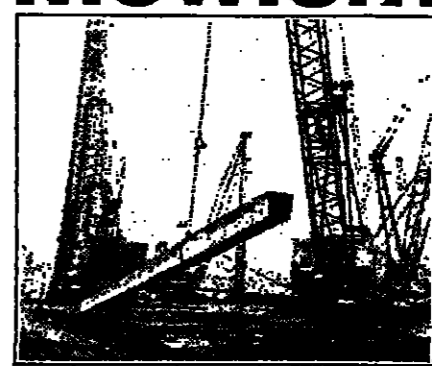
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## DRAX III

Drax will meet a tenth of the power needs of England and Wales

# Energy mainstay for years to come

SUCCESSFUL completion of the first stage of Drax B — fourth of the six 660 MW units of the entire Drax complex — "provides real life support" for the campaign to build Britain's first pressurised water reactor (PWR) at Sizewell, Suffolk, according to a top CEBG official.

This reaction applies the messy balance between the nuclear and non-nuclear parts of the electricity industry and is a reminder of the difficulty encountered by Mr Tony Benn when, as Energy Secretary in 1977, he forced the CEBG to start building the second part of the plant at Drax.

In spite of the controversy at that time, and doubts about whether without Mr Benn's financial propping, the Drax complex would ever have been launched, the electricity industry itself does not regard nuclear power as a full-scale replacement for coal.

In the wake of the energy crisis of the 1970s, it was recognised that oil was too costly as a basic fuel for generating electricity and that thanks to Britain's coal deposits coal would remain the dominant fuel for the nation's power stations, with nuclear plants being added to ensure flexibility, reliability and economic pricing in the 1990s and beyond.

The interdependence between coal and power has been compared by a senior CEBG director to that between eggs and bacon. In 1982-83, more than 82 per cent of electricity in England and Wales was produced from coal, with the CEBG purchasing 79m tonnes, two-thirds of the National Coal Board's output.

Little more than 14 per cent of electricity in that year came from nine nuclear power stations.

**Prices**

According to John Baker, CEBG Board member in charge of public affairs, NCB coal accounts for nearly 35 per cent of the cost of a unit of electricity to the final user, of which half goes into miners' wages. Every 6 per cent rise in miners' pay, he adds, raises electricity prices by 1 per cent.

The CEBG's payments for coal — calculated at £90 a second — represent nearly three-quarters of its total fuel

### CHRONOLOGY OF DRAX POWER STATION

1962	CEBG development plan includes a "Yorkshire Power Station," intended to be a 1,500 MW site with three 500 MW units to be commissioned between 1968 and 1970.
1964	Drax, on south bank of the River Ouse, identified as the site to contain three 660 MW units.
1966	New development plan decides on the UK's first three 660 MW coal-fired units, to be commissioned between 1971 and 1973. Work authorised on site with space for six 660 MW units and six auxiliary 35 MW gas turbines.
1967	Work begins on first three 660 MW units, the so-called Drax A.
1973	First two units synchronised with the grid.
1974	Third unit synchronised. Drax A becomes operational.
1977	Tony Benn, Energy Secretary, authorises start on second half of Drax power station, 18 months earlier than originally intended.
1981	Gas turbines synchronised, two months ahead of programme.
1983	(December) Drax's fourth 660 MW unit—the first part of the Drax Completion—supplies first electricity to grid.
1984	Unit four to be fully commissioned. Units five and six to follow in 1985 and 1986.

costs and 43 per cent of its overall costs.

These figures are frequently quoted by the CEBG in support of its annual bargaining with the Coal Board about prices and the structure of their supply arrangement.

The CEBG continually points out that for power stations on

the Thames Estuary and the coast, it would be considerably cheaper to use imported, instead of home-produced coal. It also notes that since large costly power stations such as Drax have been deliberately sited close to large inland coalfields, it should not have to pay prices which help to subsidise less efficient

pits kept open for "social" reasons.

But in spite of these strains between the two State-owned industries, the CEBG has no illusions about its future reliance on coal, whatever the course of Britain's economic development or whatever the result of its quest to build PWR nuclear plants.

The CEBG has a number of diverging forecasts about its requirements at the end of the century. It claims to have greatest faith in the calculation that at 70m tonnes a year, its coal burn in the year 2000 will not be all that different from today's consumption. But even its most pessimistic assumption about growth in electricity demand, entailing the burning of 60m tonnes of coal annually in power stations, would still ensure that the CEBG remained the Western world's biggest coal user.

But whatever scenario turns out to be most reliable, Drax power station should still stand out as one of the mainstays of the whole generating system at the beginning of the next century.

Remarkable both for its size and its expected efficiency, the completed 4,000 MW plant will be able to produce more than

a tenth of all the electricity used in England and Wales. It is one of four coal-fired plants which the Board calls the Aire Valley stations.

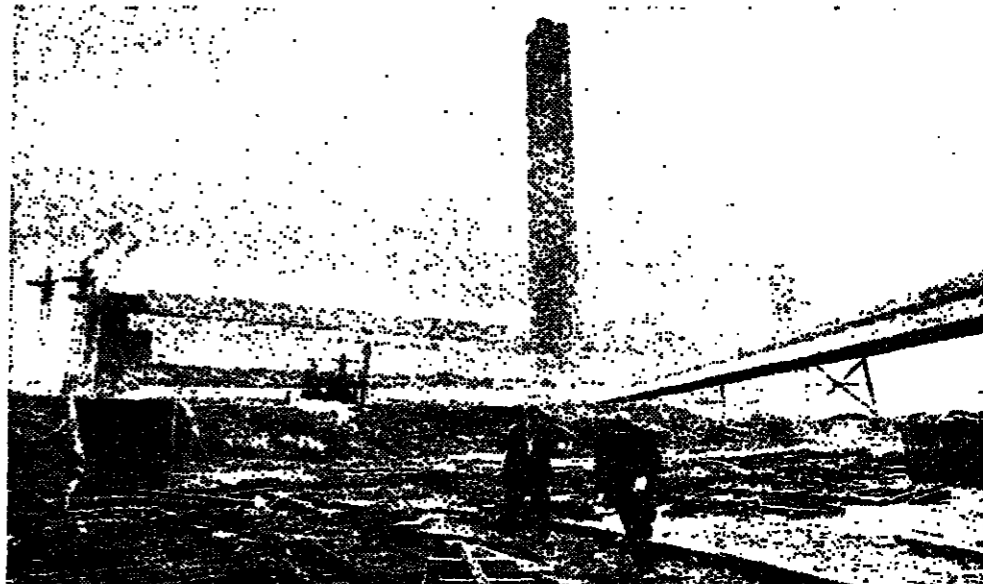
The others, with a combined capacity of 5,000 MW, are Eggborough, Ferrybridge and Thorpe Marsh.

CEBG officials in the North East region offices at Harrogate note proudly that on some days in the year such as August Bank Holidays, Drax and the rest of the Aire Valley group could supply nearly all the power used in England and Wales.

The commissioning of the complete Drax station, they add, should reduce the costs of the whole CEBG system by about 1 per cent, currently worth about £55m a year, if the station is run continuously instead of older, less-efficient stations.

Together with a similar 1 per cent savings from new nuclear plants, such as Hartlepool and Heysham, this would help to contain the cost of electricity, and even reduce it. Drax A is currently the CEBG's second most efficient coal-fired plant (after Rugeley in the Midlands). On completion, it is likely to take first place in the efficiency league table.

Drax is also remarkable for the quantity of coal it will use.



Construction in progress: the project's second phase is currently priced at £1bn

Already consuming 5m tonnes a year, the complete station will burn double that amount, equivalent to the yearly output of the new Selby super-pit being developed by the National Coal Board a few miles to the north across the River Ouse.

Worth more than £400m at current prices, and roughly equal to the wages of 60,000 Yorkshire miners, this represents one-seventh of the CEBG's entire coal-burn, ensuring that the Board's north-east region overtakes the Midlands power stations as the largest user of

British coal.

British Rail will deliver the coal to Drax on 1,000 tonne "merry go round" trains, which will unload there at the rate of 37 a day. This service will cost the CEBG about £100m a year.

The trains will bring coal from several pits in the North East, thus helping to ensure miners' jobs in several locations. However, some CEBG officials are toying with the idea of concentrating all the Selby coal at Drax, making it one of the few large single coal-field plants in the world and further

enhancing its efficiency.

Even without this additional benefit, however, Drax already stands at what Robert Weekes, the CEBG's north east regional director, calls "the very limit of the state of the art" of building coal-fired power stations.

Drax's high performance reflects the steady improvement in the efficiency of oil as well as coal-fired stations. Since 1947, the thermal efficiency of fossil-fired plants as a whole has improved by more than half.

Maurice Samuelson

## Big names resound among the legion of contractors

ONE OF THE Government's main reasons in June 1977 for ordering the completion of Drax power station was to provide much-needed business for Britain's faltering generating plant manufacturers, based largely in the North East.

It was a prescient move considering the then unforeseeable depths to which the economic recession was to sink in the ensuing seven years.

The 120 main contracts have been providing work for companies as far apart as Balfour Beatty in Scotland, Farnborough in Southern England, Norfolk in East Anglia, in addition to scores of companies in the industrial centres of England.

Together with their associated subcontractors, up to 1,000 companies are thought to have been involved at various stages.

The project was valued at £688m at the tender date in early 1978 (and is currently priced at about £1bn). Its biggest elements are the boilers, the civil engineering work, the turbine generators and the electrical installations.

On the basis of the original costs, the boilers were worth £200m, the civil engineering £150m, the turbines £130m, and the electrical contracts about £50m. There was also £54m worth of miscellaneous work, as well as engineering charges assessed at 3.5 per cent of the total.

On the hardware side, the contractors are led by NEI Parsons of Newcastle (the three 660 MW turbines and generators) and Babcock Power (the three boilers).

Other members of the NEI group are responsible for building other parts of the plant, including chlorination and nitrogen storage, the extension of the water treatment, control and instrumentation, switchgear, transformers and structural steelwork.

**Gas turbines**

Besides designing and constructing the boilers, the Babcock group is also associated with the plant for handling ash and dust, while parts of the General Electric Company (GEC) are installing three auxiliary 35 MW gas turbines and generators and associated plant and coal handling gear.

A particularly sensitive part of the boilers are the feed pumps, developed by Weir Pumps of Glasgow. Their function is to supply water at very high temperature and pressure to the boilers raising steam for the turbines. The pumps are designed to run for five years between major overhauls.

The main civil engineering work is in the hands of Tarmac (building the main foundations) and Sir Alfred MacAlpine (the superstructure), while almost 40,000 tonnes of structural steelwork has been erected by Arrol/Findlay (a consortium of Sir William Arrol, part of NEI, and Alexander Findlay, of Motherwell).

The six cooling towers are being built by MacAlpine in consortium with the Barrum Group. The former is building the foundations and the latter, a specialist in tall structures, is erecting the towers.

Some 30,000 cables, with a total length of more than 1,500 miles, are being laid by N. G. Bailey of Bradford.

The high-pressure pipes are being laid by Alton of Derby, part of the Whessoe Group.

The difficulties, and the ways they were surmounted, are graphically illustrated on the series of large charts used by Jack Elston, the CEBG's manager of the project.

They show much of the work starting late, but with the lines on the graphs converging to show how the contractors have sought to win back lost time.

The troubles started at the outset with an eight-week closure because of an industrial dispute over the credentials of one of Tarmac's shop stewards.

Other problems involved at the foundations stage were the

need to re-design the large ash-pits behind the boiler house on discovering that the coal to be used at Drax had a 40 per cent higher ash content than previously supposed. Delays were also caused by the difficulties of mating the new foundations with those of the first half of the power station, completed several years earlier.

Tarmac, together with MacAlpine, also had to comply with one of the most unusual specifications required by the CEBG. This was for the use of "cold" concrete like that developed in major contracts in the Middle East.

The method, designed to prevent thermal shrinkage, involves putting ice-cold water into the cement.

Despite the success of this innovation the earlier delays

encountered by Tarmac meant that its part of the work was completed 26 weeks late. From this point on, other contractors had to perform like relay runners trying furiously to catch up.

Arrol Findlay, with 38,000 tonnes of structural steel to erect, was to have begun work on March 1 1980, and to have finished it on February 1 1983.

However, it did not gain full access until 20 weeks after its official starting date. In 1981, it had what Elston calls "a good year" and caught up seven weeks by the time the drum was hoisted into the first boiler.

Then came the harsh winter of 1981-82 which meant that no steel could be put up for six weeks. After further acceleration in 1982 work was again interrupted—by heavy rains. The end result, nevertheless, was that over three years, the contractors cut the delay from 26 weeks to ten.

M. S.

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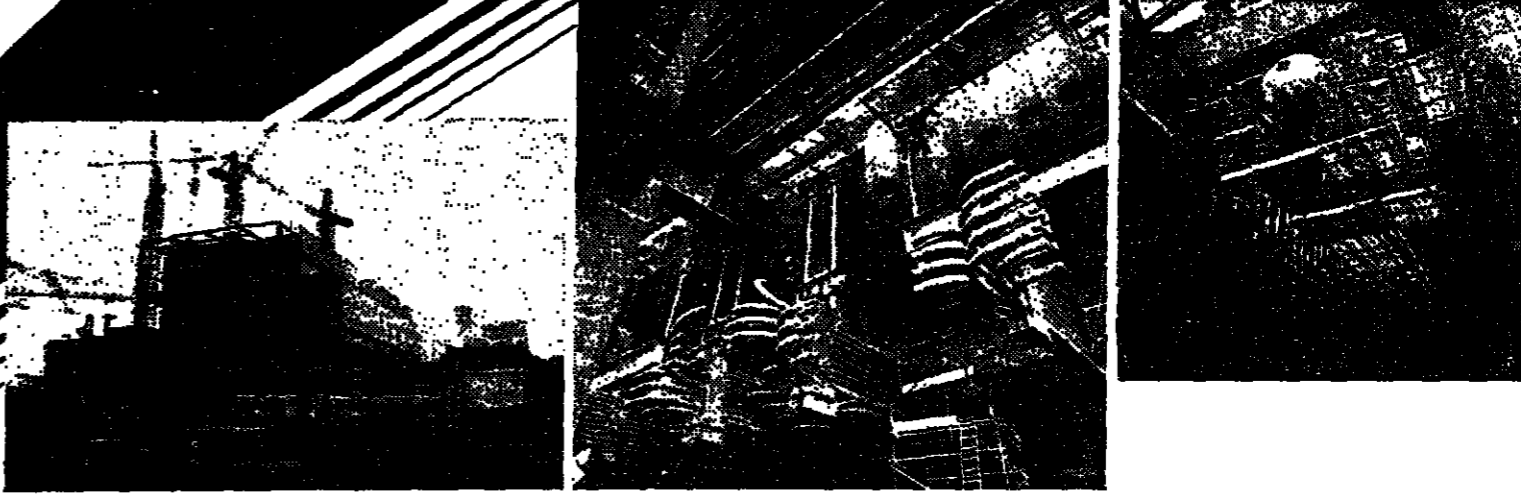
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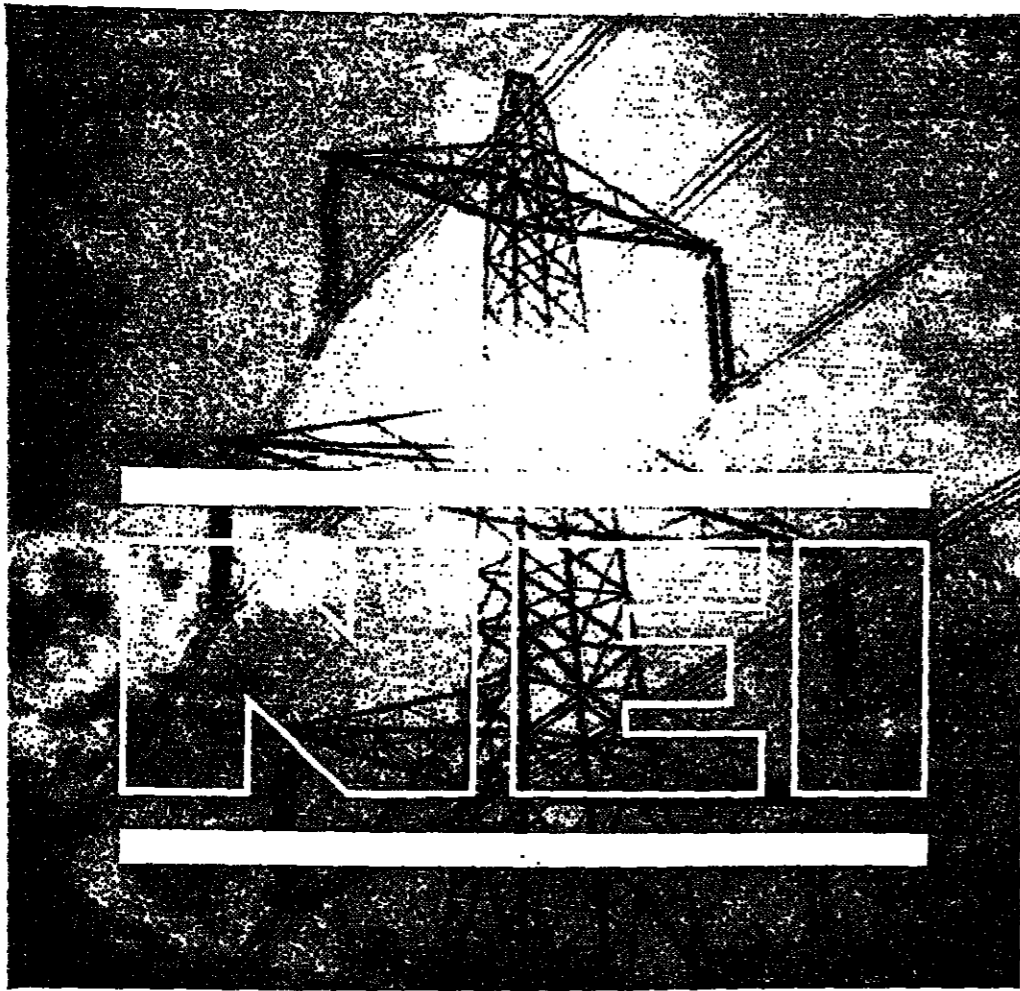


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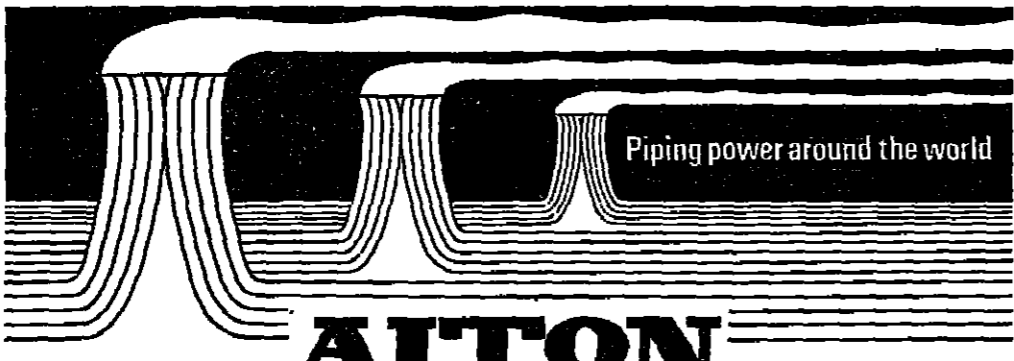
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## DRAX IV

# Twenty-acre glasshouse provides nearly 1 per cent of the country's tomato needs

## Surplus heat used to produce food

ONE OF the more unusual aspects of Drax is that reject heat from the station is used in the production of food. A joint CEBG-Express Dairy venture operates a 20-acre glasshouse producing almost 1 per cent of the tomatoes eaten in the UK.

A short distance away, RHM Aquacultural Developments, part of Ranks Hovis McDougall but with 25 per cent involvement from the CEBG, runs what is claimed to be the largest intensive eel farm in Europe.

Though this latter venture has struggled with some technical difficulties and is operating below expected capacity, it has now just about reached trading break-even.

The CEBG carried out a series of trials at the Eggborough power station between 1975 and 1978 to test the use of waste heat from cooling water for horticultural crop production.

The generating board and Express Dairy, which had also been investigating energy conservation, initially invested £250,000 in 1979 for a pilot horticultural scheme at Drax and a year later a joint company, Exel Produce was set up, Express Dairy taking 51 per cent and the generating board 49 per cent. Express Dairy also purchased a 105-acre farm adjacent to Drax in anticipation of the trial's success.

Exel now incorporates a massive 20-acre glass house, claimed to be the second largest in Europe, producing 2,300 tons of tomatoes a year, as part of the £8m joint venture.

The heating system uses condenser cooling water from the power station which is drawn off before it reaches the cooling towers and pumped to the glasshouse through 48-inch diameter underground pipes which at peak take a daily flow of 50m gallons. The water after passing through heat exchangers where the heat is extracted as warm air, is then returned to the cooling towers.

The company calculates that a conventional 20-acre oil-heated glasshouse in the UK would require just under 1m gallons of fuel oil per year, costing £400,000 at 1981 prices. The Exel glasshouse costs about half of that to run.

### Flow

The heat exchangers are computer-controlled to maintain air temperature in the glasshouse's separate sections. This is done by the phased operation of the pumps and fans which regulate the flow of condenser cooling water across between 35 and 100 depending on the season. Most of the staff were recruited when recruited but the company offers training in horticulture.

Exel which had a turnover last year of £1.5m and makes a trading profit after depreciation sells daily to supermarket chains. The UK's total tomato demand is about 320,000 tons per year of which 190,000 tons are imported. Exel says there is an opportunity to make a



Above: tending tomatoes in the extensive glasshouses. Heat exchangers through which the waste hot water flows are computer-controlled to maintain the correct temperature. Right: sorting eels for size at the eel farm. The young eels are kept in indoor tanks for a year then transferred to the outdoor lagoons



substantial reduction in imported produce. The company has a long-range plan to quadruple the glasshouse acreage to 80 acres. The reject heat from Drax would be sufficient to heat a glasshouse acreage that would meet the whole UK tomato demand but that would require such a colossal acreage and funding as to be totally impractical.

The RHM eel farm is a very different kettle of fish. Ranks Hovis McDougall started fish farming research 14 years ago, concentrating on freshwater prawns. This line of research was abandoned three years later, leaving RHM with water technology but no species to apply it to.

When RHM looked at eels it saw a market in Europe for 30,000 tonnes of these a year with a production shortfall on the Continent of 5,000 tonnes. Imports were and are being brought to Europe from North America and New Zealand during the winter months when it is too cold for eels in Europe and they go dormant for several months. The use of hot water precludes the need for eels to sleep during the early months of the year so this would be a target market time for an intensive eel farm.

A pilot plant with four small ponds was commissioned and the way PFA can be used as a partial replacement for cement in structural concrete up to between 25 and 45 per cent of normal cement content.

The ash marketing branch says the use of PFA has resulted in a 1m saving in the cost of constructing the second Drax phase.

Pulverised fuel ash is used in more than half a dozen ways. By far the biggest outlet is road construction where it is used as structural filling—the ash conditioned with water and consolidated in layers by road rollers to create a sub-base medium.

The second biggest use is in the production of building blocks such as heat insulating, lightweight thermalite. It is also utilised as a lightweight aggregate, by mixing the ash with a number of other substances, including coal and water, which is then rolled into pellets and cooked on a furnace bed. This has been used in concrete constructions such as the National Westminster head office tower block in the City of London. Pozzolamic Lytag is one company marketing ash for this purpose.

The rest is known as pulverised fuel ash (PFA), sometimes called fly ash, which is a fine powder collected from the smoke screen before it escapes up the chimney. This is a much more interesting product than that taken from the boiler bottom and is now subject to a good deal of research by the generating board and private companies to discover further applications.

The building of the second phase of Drax is an example of the way PFA can be used as a partial replacement for cement in structural concrete up to between 25 and 45 per cent of normal cement content. The ash marketing branch says the use of PFA has resulted in a 1m saving in the cost of constructing the second Drax phase. Pulverised fuel ash is used in more than half a dozen ways. By far the biggest outlet is road construction where it is used as structural filling—the ash conditioned with water and consolidated in layers by road rollers to create a sub-base medium. The second biggest use is in the production of building blocks such as heat insulating, lightweight thermalite. It is also utilised as a lightweight aggregate, by mixing the ash with a number of other substances, including coal and water, which is then rolled into pellets and cooked on a furnace bed. This has been used in concrete constructions such as the National Westminster head office tower block in the City of London. Pozzolamic Lytag is one company marketing ash for this purpose. Apart from cement replace-

ment in the use of concrete, as utilised in the Drax construction, PFA is also used as a cement substitute in grouting for such tasks as sewer repairs. Fly ash can be incorporated in brick manufacture, partly replacing some of the clay body and as a low grade fuel for the firing of the bricks.

Agreements The marketing branch has been developing a whole range of new uses since the mid-1970s, not just to find new sectors in the construction industry to replace steelmaking markets but also to tap into other industrial sectors. This has taken it into some advanced technical areas beyond its own research programme on the structure and character of ash, resulting in product development and also in the use of co-operation agreements with private companies to harness research and marketing skills. In the higher technology areas, glass spheres within PFA are used as a filler in plastics or resin, for use, for example, in the production of car bumpers and in the manufacture of heat insulation material in the aerospace industry. The ash marketing branch says the generating board is committed to a substantial research and development programme into the uses of ash. "The construction industry now appreciates PFA as a valuable byproduct which can be used with advantage in replacing traditional materials which are non-renewable."

Target The warm water greatly adds to productivity because it allows the eels to be active right through the year and a water temperature higher than that found naturally in the UK is much closer to the ideal for rearing them. From a first-year output of five tonnes, yearly sales have now reached 130 tonnes. That means three quarters of a million eels and a turnover last year of £405,000.

The planned target and the plant's design capacity however was 200 tonnes. The biggest problem has been the water temperature. The generating board expected the water to be at 30 deg C as against an optimum growth temperature of 26 deg C. However, the water is hotter than envisaged and can be as high as 44 deg C. At that temperature, water has less oxygen so can sustain less life and it also reduces growth rate. Mr David Evans, director and general manager of Aquacultural Developments, says the only way to raise tonnage is to try to reduce the temperature down or build more lagoons.

The source of the eelers and the company's sales contacts are

two issues which the company has had to develop and has done so successfully. "We could sell for more than we produce," Mr Evans says.

European eels breed in the Sargasso Sea and take three years to swim to Europe where they congregate on the Continental Shelf once a year. The spring tide brings them into Britain through a number of inlets, the main one being the Severn Estuary. The company buys the eelers or "glass eels," which at that point weigh a third of a gram each, from fishermen.

The eelers are kept in the indoor tanks for a year during which their weight rises to 10 grams. They are then transferred as adult eels to the outdoor lagoons where they are kept for a further year where, fed on a modified commercial

trout diet, they increase in size to an average of 150 grams and a foot in length. That two years' growth would take seven years in the wild.

Some 80 per cent of output goes abroad for smoked eel, most of it through four dealers in Holland and West Germany. Much of this is collected by Dutch and German badage firms at the farm.

The company sells the felled eels for the UK market direct to London dealers. These have less fat content than the European smokers which are themselves divided into various groupings. The German market, for example, wants bigger eels than the Dutch. The differences in eels and markets has been, in itself, an education for the company.

Nick Garnett

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DRAX V

The design of future coal-fired stations will be tightened up to cut sulphur emissions

EEC increases pressure on acid rain

DRAX POWER station seems... to be the last of its kind. It will probably be the last coal-fired power station built in Britain without flue-gas desulphurisation scrubbers.

At the end of a section on pollution by sulphur dioxide, which reviewed rising European concern about the possible contribution of this gas to the problem of acid rain, the report concluded: "The powers of the inspectorate stem from legislation intended to protect the population and environment of England and Wales and it is unlikely that action could be taken under the legislation in order to protect the environment in other countries."

By the time the inspector wrote "very rarely" of course, work was well on the way to completion. Its design specifications were complete by 1977, which was well before the acid rain debate shifted from being an isolated patch of scientific and pressure group drizzle to becoming a full-scale political downpour.

The most recent and potentially most far-reaching result of that charge was the publication this month of a draft EEC directive which would require member states to cut their output of sulphur dioxide by 60 per cent, of oxides of nitrogen by 40 per cent and of dust by 40 per cent—all by the year 1993.

250 mg per cu metre after 1985. These standards for new plants are in line with the stringent restrictions adopted unilaterally by West Germany last summer, following a wave of political concern about the large-scale damage to the country's forests. The only way the standards could be met, it is imposed, would be by widespread use of waste-gas scrubbing techniques—fine gas desulphurisation.

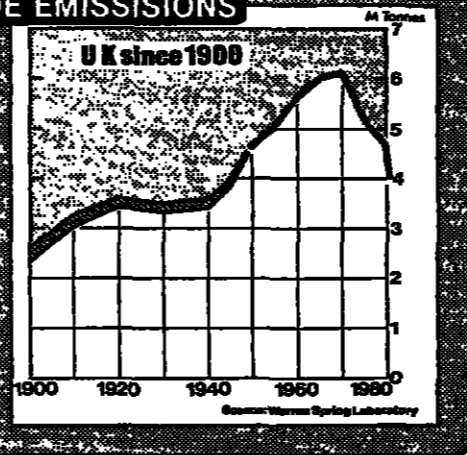
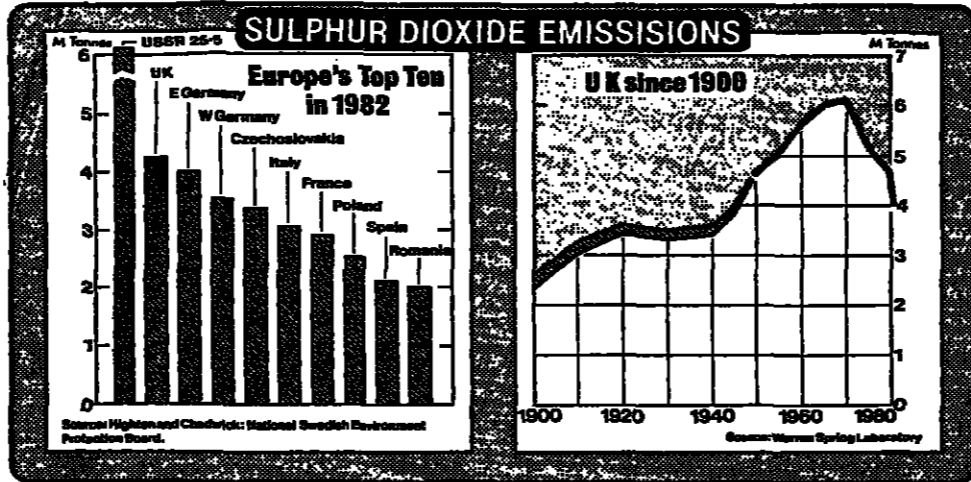
Washed out

The British Government and CEGB find themselves with an undesired central role in these events because, as the table shows, Britain is a very large producer of sulphur dioxide. This chemical, when released into the atmosphere, carried by wind and then washed out as rain or mist, is believed by some scientists and many politicians, especially in Germany and Scandinavia, to be a prime cause of acid rain. This, in turn, is argued to be a prime cause of the dying forests and, in the case of Scandinavia, the dying or dead lakes and streams.

Not surprisingly, both the Government and the industry have responded with a mixture of caution and anxiety towards this state of affairs. They argue, with considerable evidence on their side, that the connection between the malaise of the forests and lakes and acid rain is far from proven and that even if it were to be accepted as a working hypothesis, there are strong grounds for believing that even a large reduction in power station pollutants would not cure the problem.

Many scientists, both within and beyond the CEGB, are inclined to scoff at the quality of the scientific evidence offered so far by the acid rain lobby, but those who have been more heavily exposed to the force of the political arguments in Brussels do not underestimate the scale of the political threat.

"I think that the politicians demands some action. The expectation from the politicians and the public is that something is going to be done and I think



that ultimately something will be done," says Mr John Clarke, head of environmental services at the CEGB, expressing a personal view. Just what will be done depends most of all upon the progress of the commission's draft directive.

From the British point of view, any numbers at all will represent change, since the present law in the UK merely requires that the alkali inspec-

tor determine "the best practicable means of pursuing its goals of controlling air pollution. There are no general numerical targets, either for old plants or new.

For the most part, the inspectorate has been content to allow the industry to deal with its emissions simply by building higher chimneys—a policy which attracts strong criticism from Britain's downwind neigh-

bours on the other side of the Channel and the North Sea. The Drax design reflects this regime. If the CEGB is obliged to carry the entire burden of re-

Burden

If the rules are tightened, however, one thing is certain: it will cost the CEGB, the taxpayer or the electricity consumer a lot of money.

Digital control of boilers gives more flexibility

Micros taking over to match demand

CONTROL OF up to 2000 MW of electricity power enough to run 1m two-bore electric fires—from the three big turbo-alternators in the second, completion phase of Drax has been entrusted to the micro-processor.

It is one of the first examples of direct digital control by microcomputers of a large-scale steam-raising plant.

Ten years ago, when the micro-processor was known only to leading edge workers in the semi-conductor business, power engineers would have balked at the idea of "software and chips" controlling 200 ft tall boilers and massive coal pulverisers.

But times have changed. The nuclear stations, which are able to produce electricity more cheaply, are today used preferentially to meet the basic consumer demand—the "base load"—while the coal and oil-fired stations are switched on and off of the demand rises and falls through the day and night.

Other demands can occur in ways that seem peculiar but are now familiar to control centre engineers. For example, at the end of the Royal Wedding in July 1981 when Prince Charles and Lady Diana left Waterloo Station, demand rose in a few minutes by nearly 2,000MW (the whole output of Drax) as millions of viewers went to their kitchens to brew tea with electric kettles. Cold snaps in the weather have similar, if slower-acting, effects.

The result of all this is that large coal-fired stations like Drax, which at one time ran at their rated outputs most of the time, nowadays must be either partially or fully started up or shut down at short notice. That implies cost-effective, flexible control systems, which is where the micro-processor comes in together with specially tailored software.

Power station control is fairly straightforward in principle but complex in practice. The grid calls for more power, either a station has to be started up, a complex procedure involving perhaps 1,000 steps, or stations running below maximum or on "spinning reserve" have to generate more power.

If the generator (a steam turbine-driven alternator the size of a small railway station) has to produce more output, more steam pressure must be raised, calling in turn for more coal to be pulverised and blown into the burners to make more heat.

DC—that were a measure of quantities involved, such as pressure, temperature and flow rate.

When small computers of high enough reliability and low enough cost began to appear in the 1970s, digital control became feasible, in which the control voltages and current levels were replaced by strings of bits of pulses coded (rather like Morse code) to represent plant values.

The essential aspect of direct digital control (DDC) is that the control action is vested in software—the programs of the computer—rather than in the steel and copper of mechanical and electrical hardware, and so can be changed simply by running a different program.

Needed

A few years ago the micro-processor became so cheap, powerful and compact that engineers decided to use them where they were needed around the plant rather than depend, as in earlier systems, on one large central computer. Then, a computer fault does not cripple the whole, or a large part, of the station.

Thus in 1981, contracts worth about £5.7m were placed by the CEGB. Two worth about £3.7m were awarded to Solartron Schumberger for data collection and monitoring systems and two other £2m went to Babcock Bristol for control equipment.

The controlled parameters include feedwater levels and flows, combustion air, superheater and re-heater steam temperatures and individual control of the 10 coal mills.

Some 2,000 variable and alarm states are shown in a wide variety of formats, on colour "television" displays at the station's control desks, with push-button call-up of text, numerals and graphical data, and plant mimic diagrams.

There are 18 micro-processors on each boiler unit, eight for direct boiler control and 10 for start-up and shut-down. LSI 11/23 processors from Digital Equipment Company (DEC) have been used and the software for direct control has been written in the CEGB's own high level computer language called Cuttiss.

with associated peripherals (printers and disc stores for example) form a distributed data network operating over high-speed communications links.

Digital control and Cuttiss, vital features at Drax, will be of great utility throughout CEGB. It is estimated that Cuttiss will reduce the manpower needs of control refurbishment schemes by some 240 man-years.

Complex

The difference, known as the "error signal," is applied to the equipment controlling the coal pulverising mills or the fans that move the coal dust down feed pipes, thus increasing the burning rate in the boilers. The pressure rises, the error signal is reduced and the action continues until it falls to zero, when the plant will then be producing the new, higher output.

For many years control engineers used "analogue" control signals—that is, voltage or current levels, AC or

DC—that were a measure of quantities involved, such as pressure, temperature and flow rate.

Work on Cuttiss (it stands for Computer Users' Technical Languages and Application Software System) began at CEGB research centres when it was concluded that power engineers needed, first, a control system programming language that was independent of the computer used; second, one tailored to their particular engineering needs; and, third, one that needed no comprehensive knowledge of computers or programming.

Cuttiss allows engineers working in specific areas of power station control to perfect their programs and integrate them on a time-slot basis for overall control of the plant. The main areas are sequence control for start up and shut down, DDC to increase or decrease plant variables, and graphics/text generation for the display consoles.

An indication of the complexity of the modern power station is afforded by the fact that over 3,000 analogue inputs and some 7,000 status/event input lines are monitored at Drax. Altogether seven supervisory computer systems and 21 intelligent data centres,

ducing the nation's sulphur dioxide and nitrogen oxides emissions to within the proposed EEC limits, the board's rough estimate is that it would cost £2bn and add 10 to 15 per cent to the operating costs of the power stations affected. If the entire cost were loaded upon the price of electricity, bills would rise by about 7 per cent.

This would involve fitting flue-gas desulphurisation scrubbers to the chimney stacks of the plants, modifying the plants' boilers so as to burn more of the nitrogen oxides produced when coal and fuel oil are burned and increasing the size of the dust collectors, which use electrostatic plates to filter out particles of soot.

The expensive part is the scrubber, which would cost £117m just for the second stage of Drax—twice that for the entire installation. Drax's running costs would rise by about £50m a year—mainly the cost of collecting and disposing of the pollutants removed from the gas.

It was this problem of how to dispose of the pollutants which, curiously enough, finished off the last British experience with flue-gas desulphurisation in the late 1960s when the scrubbers at the famous, but now defunct, Battersea power station in London had to be closed down because water from the gas-washing plant was causing a serious pollution problem in the Thames.

At their peak, Battersea's scrubbers, which forced the waste gas through jets of water and chalk in suspension, culled 90 per cent of the sulphur from the emissions—a creditable standard even for the more modern scrubbers used today in Japan and West Germany.

Another way of reducing the amount of sulphur in power station waste is to wash the coal before it is burned—an option which the CEGB is currently exploring with the National Coal Board, although that in turn raises the difficult question of who should pay for the washing.

One of the more significant ironies of the entire acid rain debate becomes evident as these cost calculations are made: that is if coal-powered electricity generation is to become more expensive, the relative economic advantage of nuclear power will increase.

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This Weir pump set a new reliability

It is an Advanced Class main boiler feed pump of the type installed in the Central Electricity Generating Board's Drax A Power Station in 1973. These pumps have set a new record for reliability. In a comparative study covering 2½ years and 36,500 hours' running they showed an average availability of 97.4%, making them easily the most reliable pumps of all those studied, in Britain or abroad—which means that they are probably the most reliable power station boiler feed pumps in the world.

The 6 Drax 50% duty starting and standby feed pumps, also supplied by Weir, could probably do just as well, but in the first 10 years of operation they have hardly ever been used.

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year programme in cooperation with the CEGB, was designed for reliability and ease of maintenance. All the internal wearing parts removed and replaced very as a single cartridge disturbing the drive align main pipework, while a shaft minimises vibration generous metal-to-metal contact ensures that in emergency can run dry without damage pump will stand severe shock, hot or cold, with differentials of up to 200

Weir is by far the most experienced and producer of power station pumps based on the screw concept as the Drax pumps are fossil-fuelled and nuclear stations in the United

Advertisement for DSL Insulation Division of Deborah Services by Babcock Power Ltd. The text describes thermal insulation and cladding of Boilers Nos. 4 and 5 at Drax, highlighting the company's expertise in industrial design and safety.

Advertisement for Mather + Platt About Fire Protection. It features a technical illustration of a fire protection system and text describing their services for the Central Electricity Generating Board and the Drax Project.

Vertical advertisement on the left edge of the page, partially obscured, mentioning 'W are a supplier GB Drax or Station' and 'Installation of Central Boilers'.

## DRAX VI

## Drax is proving a showcase for workers' and management talents

# Benefits for workforce as project's success grows

BOTH THE contractors and the workforce are hoping to benefit from the progress of Drax as a model construction site and the last word in coal-fired power stations.

A union official on the site's joint management committee confirmed earlier this month that men being laid off as the steel construction contract slowed down were being surprisingly successful in finding new work in the North East, in view of the industrial recession.

Their success was attributed to the lack of trouble on the site and the skillful way in which contractors and employees had accelerated their work to counteract initial delays.

Jack Elston, the CEB's manager of the project, describes the men as a "well motivated and self-disciplined labour force already used to building power stations."

Some 75 per cent of the Drax labour force, which at its peak last spring numbered 3,000, was recruited in the North East. It included 30 men accommodated with their families in special caravans, and whose children attended the local village school.

### Subsidiary

Another 350 unattached men are accommodated in the main construction camp nearby, run by ARA, the UK subsidiary of the U.S.-based industrial catering empire which will be in charge of the



Inside the boiler house. The skill with which initial delays at the site were overcome has attracted attention from electricity authorities overseas.

catering at the forthcoming Los Angeles Olympics. (Its UK leisure division caters at Wembley Stadium in London.)

Entertainment facilities in the recreation building at Drax include snooker, table tennis and video players with hired cassettes. The nearest town for an outing is Selby, a few miles away, which sits on top of the super-pit which will supply much of Drax's requirements.

The Drax completion is also proving to be a show

case for overseas power utilities, who have been sending a constant stream of people to inspect it.

Among the visitors in January were a team of vice-presidents of U.S. utilities belonging to the American Round Table business organisation.

Their interest is more than casual, since the management plan which the CEB used for controlling the work at Drax was inspired by a major study which the Round Table carried out into the short-

comings of the U.S. construction industry.

In the past year, there were also three visits by the Indian electricity authorities connected with the coal-fired power station being built at Rihand in India, with British assistance.

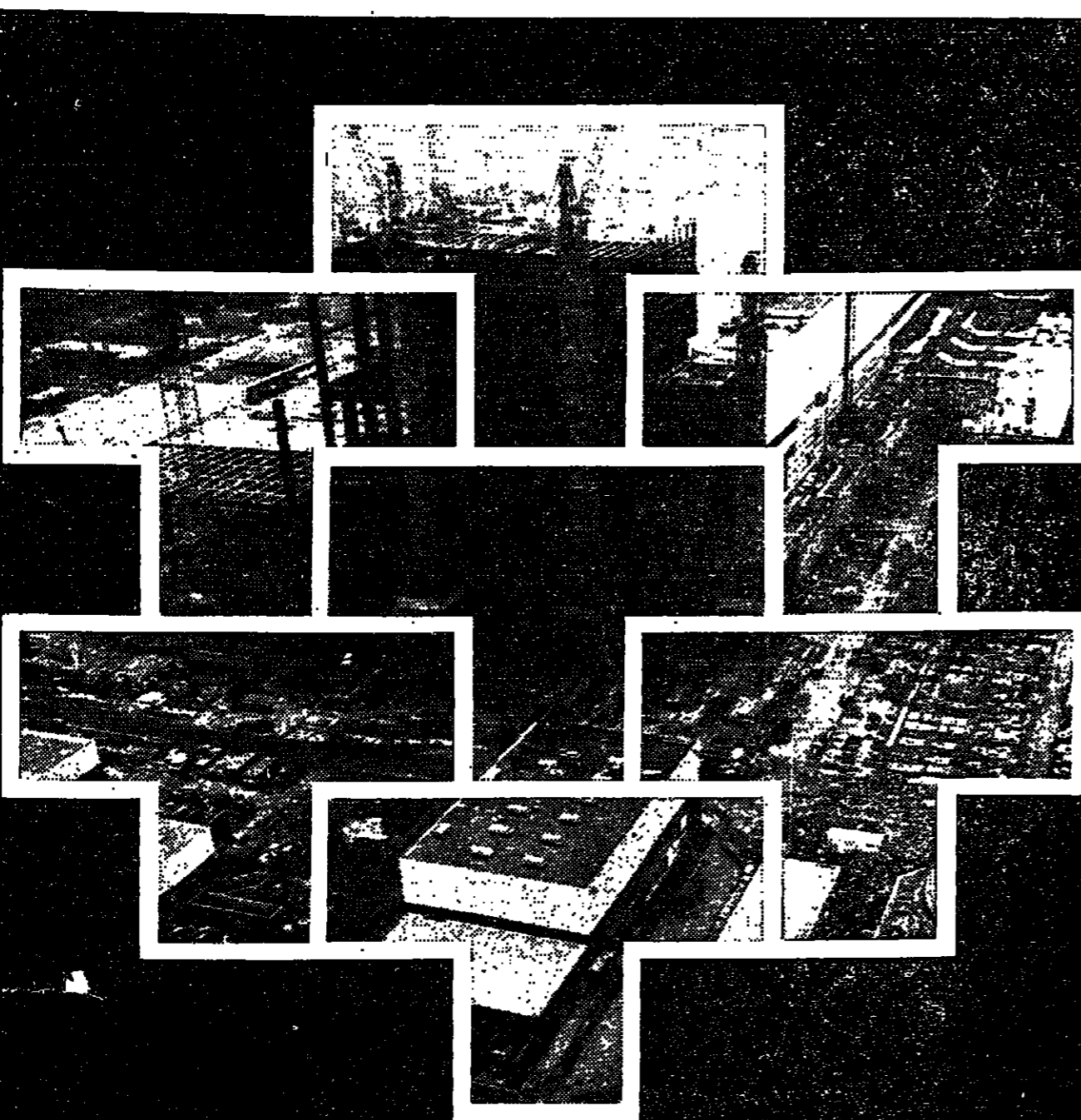
### Inspect

The Dutch electricity authorities also came to Drax to inspect the way the 1m tonnes of steel a year are being worked into a landscape site a mile away.

On the other hand, when a team of Japanese officials from Mitsubishi arrived last summer, they seemed more intent on selling to the CEB than learning from it. With an eye on the international concern over acid rain and sulphur dioxide emissions, they gave the CEB a presentation about Mitsubishi equipment for the chimneys scrubbing of emissions from fossil-fuel power stations.

The CEB is not yet in the market for such equipment so the Japanese left empty-handed, but at least one CEB official was left with the impression that Japanese manufacturers are far ahead of British industry in this potentially large market. British manufacturers, on the other hand, claim that once the market develops, they will be able to enter it with very little delay.

Maurice Samuelson



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Projects are running out as UK construction programme dwindles

## Expertise being offered abroad

THE CONSUMING problem facing the Generation Development and Construction Division is not a technical one, but the simple fact that its work is running out.

Within a year its only power station construction operations in England will be completion of the final phase of Drax, due to be finished in the middle of 1986, and on Heysham II, due to be completed the following year.

Even if building of the Sizewell B nuclear pressurised water reactor station eventually goes ahead, perhaps in 1987, the division's 1,700 workforce will have to be cut substantially. If Sizewell B does not go ahead, Mr John Collier, the division's reactor general manager, says employment will shrink by more than

half.

That position would be a far cry from 1971 when the division was set up and geared to building one power station a year. When the division moved to its existing office site, at Barnwood near Gloucester, ten years ago, its 2,100 staff were handling ten major projects, seven at peak construction life.

### Peak

Now, Heysham I, Hartlepool and Dunfermline, all advanced gas-cooled reactor nuclear stations, are at the commissioning stage together with the last units at the Dinorwic station in Wales. Littlebrook D has now become fully operational and there is only one unit out of the four at the Isle of Grain oil fired station to be completed.

One of Mr Collier's tasks is to try to attract new forms of work for the division by, for example, encouraging British contractors and foreign power station owners, to use the division's expertise in project management and construction.

Other forms of work that might open up include combined power and heat supply stations near cities, a subject on which the Government has yet to make a formal decision, and conversion of oil stations to coal.

The division's senior management sees part of its job as trying to make sure that the division keeps its expertise intact before the next major series of power station constructions, which the Central Electricity Generating Board (CEGB) expects, actually begins.

Some of the later power stations built by the division will come to the end of their life in less than 25 years from now, but the division says it would be harmful not to have a gradual construction programme rather than a concentrated burst effort.

The division is one of three functional divisions within the generating board, the other two being technical planning, research and development, and transmission and technical services.

The construction division has sections dealing with the mechanical and electrical aspects of station design, and a plant engineering department divided up into specialist areas of boilers, turbines, nuclear installation, materials and pressure parts.

Under Mr Ron Burbridge, director of project management, there is a clutch of managers in charge of the separate project

teams for Drax, Grain, Littlebrook, the Dinorwic scheme near Snowdonia and a small hydro station at Kielder, Northumberland.

A separate director deals with the PWI and there is a different project management structure for the nuclear stations whose construction the CEGB is involved with.

Barnwood's basic job has been designing and controlling the overall construction of non-nuclear power stations as well as building nuclear power stations apart from their nuclear islands.

A large part of the task involves stitching together both on site and at Barnwood, the separate but interlinked activities of different contractors. One technical drawing by one contractor, for example, could cut across the work of a dozen other contractors. Those contractors need to know the implications of that design on their own work.

Barnwood also carries out design work on a whole series of systems including piping, heating and ventilating. About a tenth of the division's activities are taken up by design, modification and other work on plant that is already operating even though the five regions have their own engineering capability.

The division has some limited consultancy work abroad. This includes a full consultancy for the construction of the Rihand coal-fired station in India for which it is assisting both the Indian Government and Northern Engineering Industries.

It is also providing assistance in the construction of a power station in Honiara, in the South Pacific, and on a number of projects in Australia.

### JACK ELSTON: PROJECT MANAGER

## Keeping a close eye on the schedules

JACK ELSTON has been living and breathing the final phase of Drax since he took over as project manager in October 1981, just as the erection of boilers and turbines began.

His job is a reflection of the pressures and workloads which many senior managers have to endure, though frequently enjoy. It has also meant some physically taxing effort, not least the 400-mile round trip Mr Elston usually makes every week between his office near Gloucester and the Drax site.

In dealing with contractors he says that "I don't lead from the front. My technique and philosophy is to lead from the front," he says, while paying tribute to the Generating Board team around him.

"I'm useless without these people. I help create the right environment so they can do their job."

In an odd but understandable statement he says that the pressures of a project manager are frequently greater when a project is running on time, as is Drax.

### Tightrope

If you are already six months behind schedule, the loss of another week does not look so awful. Managers become almost resigned to it.

When you lose two days on an operation that was on time, however, it becomes a matter of urgency to get it back on track. "It's like walking a tightrope from which you mustn't fall. When you've fallen off, and you're right in the mud, I'm afraid resignation can set in."

Mr Elston, a 53-year-old married man who has the added burden of sharing with his wife the problem of caring for a physically-handicapped son, has worked in electricity generation since leaving school. He joined the then Leeds Corporation Electricity Department as an apprentice,



Jack Elston: leading from the front.

before becoming a draughtsman in the construction office of the Yorkshire division of the pre-nationalisation British Electricity Authority.

He was project manager for Littlebrook D before moving on to Drax. Controlling the construction project is in itself a very demanding job, whether it is dealing with contractors or unions face to face, sitting in on a joint problem solving meeting, signing payment certificates (£150m worth this year), or controlling the monthly reports on the project.

Apart from that however, Mr Elston has overall responsibility for safety on all the generation development and construction division sites, as well as chairing the division's mechanical resources unit.

Dealing with the welter of contractors on the Drax project is the underlying key to Mr Elston's work. His rule on that is simple—give them a hard task but a good environment in which to do the job.

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